1. Purpose, Method, Source Hierarchy

The purpose of this file is not to rehash the Dyatlov Pass case as another 'mystery compilation.' The aim is to disciplinarily separate the primary and secondary material at hand; to reconstruct the physical backbone of the event; and to make clear at which points we possess reliable information and at which points we can only speak in probabilities. While searching for an answer to the question 'what might have happened?', this work simultaneously places a harder question at its center: Among everything told so far, what is genuinely document-based, what is subsequently produced interpretation, and what is plainly a gap-filling reflex?

If the Dyatlov case is read like an ordinary mountain accident file, it quickly simplifies; conversely, if every anomaly is interpreted independently and without limit, it transforms into a completely unsolvable heap of conspiracy. For this reason, the fundamental method of this file is to establish a conscious discipline between two extremes. On one side lies the hard physics carried by the mechanical and medical findings; on the other stand the narrative layers created by the investigation, the party, the prosecution, and subsequent testimonies. This file will address the physics first; then the narrative; and finally where the narrative disrupts the physics.

The starting point of this section is simple: In the Dyatlov case, a solution is only possible by correctly assigning the weight of sources. Not every text discussing the same topic is equally reliable. Nor is every statement given about the same event equally 'evidence.' For example, treating the forensic expert opinion stating that the tent was cut from the inside the same as an interview given years later would be an analytical error. Similarly, it is wrong to view the formula 'overwhelming natural force' used in the closing decision as a sentence that solved the actual mechanism of the event; this expression serves as a legal closure function, not a forensic explanatory function (Closing Decision, May 28, 1959).

The fundamental questions of this file are as follows:

First, why did the group leave the tent by cutting it from the inside on the night of February 1, 1959?

Second, after the initial evacuation, how did the group split, along which line did who die, and why?

Third, why do the traumas of the last four people found in the ravine differ from the death line of the first five?

Fourth, does the radiation anomaly stand at the center of the event, or is it a contaminated but secondary layer appended to the central narrative?

Fifth, did the Soviet investigation and party mechanism try to reveal the true explanation of the event, or did it move toward producing a politically manageable version?

None of these questions will be answered in isolation. The biggest mistake in the Dyatlov case is trying to solve every knot with a single sentence. The event is multi-

layered. The method to be followed in this file is to test each layer with its own material; then to attempt to unite them in a single chain of death.

1.1. Fundamental Principles of the Method

This analysis rests on five principles.

1. Principle of Temporal Proximity

A record produced closest in time to an event outweighs a narrative about the same subject made years later. For this reason, the 1959 incident site protocols, autopsies, histology reports, tent expertise, and radiograms are considered more reliable than interviews from after 1990, 2000, and 2010. Later testimonies are not entirely worthless; but they carry lower weight due to memory erosion, narrative influence, the tendency to re-construct an event that has been told and retold, and the guiding effect of the media.

2. Principle of Physical Proximity

The person who first saw the event, took the first protocol, first examined the body, is more valuable than someone making distant commentary. For this reason, the strongest material about the physical condition of the tent is the forensic expertise conducted on the tent (Tent forensic expertise, April 3, 1959; Tent Protocol No. 199, April 16, 1959). Likewise, the strongest layer regarding cause of death is the autopsy and histology (autopsy reports, May 9, 1959; histology reports, May 29, 1959).

3. Principle of Chain and Context

A single document cannot establish a verdict on its own. A finding gains weight only when combined with other documents. For example, the information that the tent was cut from the inside, though important alone, only acquires meaning together with the shoes and warm clothing left inside, the footprints leading downward, and the fire at the cedar line. Similarly, the severe traumas in the ravine can only reach a solid conclusion when interpreted together with the site geometry, the presence of the shelter/flooring, and histology findings.

4. Distinction Between Speculation and Finding

In this file, under every heading, 'documented finding' and 'inference resulting from reasoning' will be clearly separated from each other. For example, 'the absence of Dubinina's tongue' is a finding; 'torture' is an interpretation. 'Beta contamination on clothing' is a finding; 'explosion of a nuclear device' is an interpretation. 'The Chinese lantern found on top of the tent' is a finding; 'one person went out first' is an inference. Any study that fails to maintain this distinction quickly produces conspiracy.

5. Principle of Mechanical Consistency

An explanation cannot suffice by merely appearing dramatic; it must conform to the physical realities of the site. For this reason, for a theory to be strong, it must simultaneously satisfy the following five conditions:

- it explains the tent,

- it explains the footprints,
- it explains the behaviors on the cedar line,
- it explains the shelter and clothing circulation on the ravine line,
- it explains the distribution of traumas.

A theory satisfying two of these five conditions but unable to explain three may be 'interesting'; but it cannot be the main model.

1.2. Source Hierarchy

The source reliability ranking to be used in this file is as follows:

I. Incident Site Protocols

These occupy the top position. Because they provide the first layer regarding where, how, and with what objects the event was found. Details such as where the tent was located, the cedar line, the ravine line, the positions of the bodies, items found, excavation depth, bodies in water, and flooring first appear here (camp site protocol, February 28, 1959; incident site protocol, February 27, 1959; ravine incident site protocol, May 6, 1959). These documents are not flawless; they have name errors, missing records, and rough narrative problems. Yet the raw geometry of the event is established here. That is why they are at the top.

II. Autopsies

In second place come the autopsies. These provide the cause of death, the nature of trauma, soft tissue loss, rib and skull fractures, internal organ findings, and rough biological data regarding time of death (autopsies, May 9, 1959). Autopsies are also not absolute; they have serious limitations such as the technical limits of the era, the late discovery of bodies, decomposition, and water effects. Nevertheless, they remain the strongest layer for the question 'how did each person die?'

III. Histology

In third place are the histology reports (histological analyses, May 29, 1959). These are critical on two particular points:

- whether the trauma occurred during life,
- whether there is actually hemorrhage in certain fracture and soft tissue areas.

Histology reinforces that the severe traumas in the ravine group are not post-mortem decomposition illusions. It is therefore the second confirming and limiting link of the autopsies.

IV. Tent Expertise

The tent is the chokepoint of the Dyatlov case. For this reason, the technical examination of the tent carries separate weight (tent forensic expertise, April 3, 1959; Tent Protocol No. 199, April 16, 1959). The direction of cuts, the tear-cut distinction, the tension properties of the fabric, and the reconstructed form of the tent are indispensable for approaching the question 'why was the fabric split, not the door?' However, these

reports also have limits: the tent was examined not in its field state but in a subsequently reconstructed form. Therefore they are very strong but not absolute.

V. Radiograms

The May and March radiograms are the nervous system of the event (May 1959 radiograms; radio traffic within the Maslennikov notebook). These answer the questions of who saw what when in the field, how early which interpretation was formed, and what level the logistical and search chaos reached. The strength of the radiograms is that they were produced within the hot flow of the event. Their weakness is that they were written hastily, containing identity and interpretation errors. Therefore they are very valuable, but must be read carefully.

VI. Notebooks

The Maslennikov and Grigoriev notebooks are not a gold mine; but they give the living thought process of the event (Maslennikov notebook, March 1959; Grigoriev 'Snowstorm in the Mountains' notebooks). Maslennikov's notes are especially important; because they clearly show the first hypotheses in the field, the search area geometry, that the meteorological rocket possibility was genuinely considered, and the feeling that 'the main mystery is still the reason for leaving the tent.' Grigoriev's notes are dirtier, more retroactively mixed-in, and carry lower weight. Notebooks are therefore sources that show the thinking around the protocols, not sources that supersede the protocols.

VII. CPSU Documents

Party and city committee documents do not directly provide the physical reality of the event; but they show how that reality was packaged (CPSU special reports, March 1959). Their value lies less in the question 'how did the death occur?' and more in 'how was the death narrated?' These documents show that the event was very early on pressed into the mold of 'natural disaster + organizational scandal.' They are therefore political-narrative sources, not physical ones.

VIII. Late Testimonies

The interviews given years later by Yuri Yudin, Vladimir Askinadzi, Korotaev, Okishev, Bartolomey, Karelin, and others are important; but are used with lower weight. Because on the one hand they make visible gaps unexplained in the file, on the other they are influenced by the powerful legend layers that have formed around the event over time. The primary value of late testimonies is that they point to inconsistencies not explained by the primary file; but constructing a death model directly from them is problematic.

IX. Modern Scientific Models

At the bottom but not entirely outside. In particular the 2021 slab avalanche model and subsequent topographic/meteorological defenses allow us to reconsider a physically possible natural mechanism for the initial break. However, these models work sixty years after the event, with incomplete data and reconstructed parameters. Therefore they cannot replace the primary document; they are used only to test the physical gaps that the primary document cannot explain.

1.3. Why This Hierarchy?

One of the fundamental theses of this file is: In order to solve the Dyatlov case, it is necessary first to weigh the documents according to their physical force. A party report cannot tell who cut the tent from the inside; only the tent expertise can say that. A witness interview cannot determine whether the traumas in the ravine are real; only the autopsy and histology can determine that. In contrast, the prosecution and CPSU documents show us not only how the deaths occurred, but how the narration of the deaths was preferred. For this reason, different source types are not alternatives to each other, but layers carrying data at different levels.

Another reason for this hierarchy is the contaminated record problem in the Dyatlov file. A significant portion of the documents is incomplete, scattered, transported late, sometimes randomly stuffed into bags, and subsequently mixed together. Even at the beginning of the item identification protocol it is noted that the search team stuffed items randomly into bags. This makes it difficult to establish a full chain particularly for objects such as clothing, watches, skis, knives, and notebooks. Therefore, this is as much a contaminated file as it is a strong one. The source hierarchy is necessary to reduce this contamination.

1.4. What Will Not Be Done in This File?

This study will not do three things.

First, it will not turn every anomaly into a standalone central explanation.

For example, radiation is a real anomaly; but merely being real does not automatically make it the death engine.

Second, it will not automatically give a criminal interpretation to every detail that appears dramatic.

For example, the absence of Dubinina's tongue is a frightening finding; but it is not sufficient to say 'torture' directly.

Third, it will not leap from 'the state simplified the narrative' to 'the state killed.'

There are strong traces in the file that the narrative was trimmed; but this does not automatically mean that the form of killing was also by the hand of the state.

These three prohibitions will preserve the discipline of the file.

1.5. Preliminary Judgment of the Work

No final verdict is given in this section; however, a preliminary judgment regarding how the file should be read is established.

One: The Dyatlov case is not a single-mechanism death file.

Two: It is wrong to act as if there is no gap between 'natural disaster' and 'conspiracy'; between the two there may be institutional trimming and dirty anomalies stacked onto a natural backbone.

Three: The weakest link of the event is not the mountain but the narrative itself. Because while the physical data, even if fragmentary, provides a certain backbone; the truly great fracture lies in this backbone having subsequently been simplified by the state and party mechanism.

For this reason, the method of this file will rest on the following short formula:

First, the physical backbone of the event will be established;

then anomalies will be tested one by one;

finally, it will be shown where the official narrative disrupts this backbone.

2. Brief Chronology of the Case

The chronology of the Dyatlov Pass case is important not only to understand the event itself, but also to understand what narrative the investigation produced at which stage. Because in this file, not only the question 'when did what happen?' but also 'when did the state know what, and in what language did it record this?' is decisive. For this reason, the chronology must cover not only the hiking days, but also the sounding of the alarm, the expansion of the search organization, the finding of the first bodies, the emergence of the ravine phase, and the closure of the file. The chronology to be used has been primarily constructed from sections of the May 28, 1959 closing decision that summarize the event flow, Maslennikov's March 10 testimony, field radiograms regarding the search process, and the February 1 photo sequence (Ivanov, Closing Decision, May 28, 1959; Maslennikov testimony, March 10, 1959; May 1959 radiograms; Trek photos archive).

2.1. January 23-28, 1959: Departure and Beginning of the Hike

According to the official closing decision, the group departed from Sverdlovsk on January 23, 1959. The initial team consisted of ten people: Igor Dyatlov was the leader; Yuri Yudin was initially with the group; the other nine names were Dubinina, Kolmogorova, Kolevatov, Doroshenko, Zolotaryov, Slobodin, Krivonischenko, and Thibeaux-Brignolle. The closing decision explicitly states that the group had the training and equipment to participate in a Grade III difficulty hike, and that the expedition was financed by the UPI trade union committee. After the group safely reached the 2nd Northern settlement on January 28, the actual winter hike began; at the same point Yuri Yudin returned for health reasons. Thus the field team dropped to nine people (Ivanov, Closing Decision, May 28, 1959).

This initial phase is important because two critical points are fixed right at the beginning of the file. First, the official file does not frame the group as 'unprepared amateurs'; on the contrary, it records that the equipment and physical preparation were adequate. Second, Yudin's return makes the case technically not 'the loss of ten people' but 'the loss of nine people.' This initial distinction will be critical for understanding the inventory and item anomalies that later emerge (Ivanov, Closing Decision, May 28, 1959).

2.2. January 28-31, 1959: Lozva and Auspiya Lines

When the closing decision and diaries are read together, it is seen that the group headed up the Lozva on January 28, continued movement on January 30, and reached the Auspiya on January 31, attempting to cross to the Lozva valley. The same text states that on January 31, due to low temperature and strong wind, the group was unable to cross the pass and descended, spending the night at the lower line. This chronology is later also consistent with the diaries and photographs: January 31 is the day the open ridge line was tested but not accepted for spending the night (Ivanov, Closing Decision, May 28, 1959).

Maslennikov's March 10 testimony advances along the same line. According to him, the group failed the pass attempt on January 31, turned back, and spent the night in a more sheltered area near the forest. This statement shows why the decision of February 1 will later be so hotly debated: the group had already experienced the previous day that the open ridge was a bad choice (Maslennikov testimony, March 10, 1959).

2.3. February 1, 1959: Labaz, Late Departure, and Final Camp

The real fracture day of the chronology is February 1. According to the closing decision, on this date the group established a labaz in the upper parts of the Auspiya; that is, they stored food and some items deemed unnecessary for the return trip. The same decision states that Dyatlov's first major error was the late start of the ascent around 3:00 PM on February 1. Based on preserved ski tracks, it is later concluded that instead of the pass point between 1079 and 880, the group veered 500-600 meters to the left and headed directly up the eastern slope of 1079. That is, the group's final camp point is not the targeted 'saddle/pass' but the wrong slope. In the closing decision's own language, this is Dyatlov's 'second error' (Ivanov, Closing Decision, May 28, 1959).

The same text argues that one of the last photo frames shows the moment of digging out snow and setting up the tent, and based on light/exposure calculations, tent setup began around approximately 5:00 PM. After this, there is neither a new photograph nor a new written record. This is decisive in terms of chronology: the document flow breaks off between the tent setup on the evening of February 1 and the first escape on the night of February 1/2. This is the actual 'dark window' of the case (Ivanov, Closing Decision, May 28, 1959).

The Trek photo archive visually supports this chronology. In the last reliable frames attributable to February 1, the group is still moving; in frames numbered 1_32 and 1_33 they are seen advancing on the open line and presumably carrying the tent. The site archive notes that these are also found in case files vol.2. The last frame, 1_34, is most likely an accidentally taken, technically meaningless frame; therefore it should be accepted that it does not show the event itself (Trek photos archive, February 1, 1959).

2.4. February 12-20, 1959: Delayed Alarm

According to official protocol, the group was required to telegraph their arrival at Vizhay on February 12, 1959. When this date passed without news of the group, according to the closing decision, the search process was effectively launched on February 20 under pressure from the immediate circle and people who knew Dyatlov. There is a two-level

delay here: first a lack of buffer in the planning, then institutional reflex lagging despite failing to receive news (Ivanov, Closing Decision, May 28, 1959; Maslennikov testimony, March 10, 1959).

Maslennikov's testimony makes this delay more concrete. He learns on February 20 from Ufimtsev that the group has not returned; on February 21 meetings are held at the trade union and institutional level; on February 23 the first search parties are directed to the field; on February 24 a larger team including Maslennikov flies to Ivdel. This account breaks the myth that 'the search started immediately.' The search started, but it started late; and in the first few days there was also indecision about which line was to be taken how seriously (Maslennikov testimony, March 10, 1959).

2.5. February 23-26, 1959: Establishment of the Search Network and Finding the Tent

According to Maslennikov's testimony, on February 24, 25, and 26 different groups were deployed in different directions: the Grebennik group toward Oyko-Chakur, the Chernyshev group toward the Purma-Vishera pass, the Akselrod group toward the Otorten side, and Slobtsov toward the Auspiya line. On the same days, a Mansi search line under Kurikov's leadership and a Komi hunter line coordinated with the Perm side also entered the picture. This phase is the period when the event had not yet been narrowed to a specific point, and scattered search was conducted across the entire route (Maslennikov testimony, March 10, 1959).

The turning point is the evening of February 26. According to Maslennikov's testimony, a report from the Slobtsov group announces that the tent has been found on the eastern slope of 1079. This report largely renders the other search axes meaningless, and the search center is rapidly shifted to the height 1079 area. The problem has now transformed from 'a missing group along the route' to 'multiple bodies around a single incident site' (Maslennikov testimony, March 10, 1959; Closing Decision, May 28, 1959).

2.6. February 27, 1959: Discovery of the First Four Bodies

Maslennikov's testimony and later official summaries give February 27 as the first major discovery day. On the same day, Krivonischenko and Doroshenko are found by the fire under the cedar, Dyatlov between the cedar and the tent, and Kolmogorova further up the line. These first four bodies roughly establish the first scene of the event: the forest boundary, the fire, the return line, the tent direction. Maslennikov's account records that Krivonischenko and Doroshenko were semi-naked, near the fire; while Dyatlov and Kolmogorova were on the axis extending toward the tent (Maslennikov testimony, March 10, 1959).

On the same day the search base begins to be established around 1079, and the search moves from a 'general route check' to concentration around a narrowed death scene. At this stage the first field interpretation begins to take shape in the direction of strong wind and sudden evacuation; however, the ravine line, severe traumas, and the idea of a second shelter have not yet emerged. February 27 data is therefore strong, but incomplete (Maslennikov testimony, March 10, 1959).

2.7. February 28 - March 5, 1959: Tent Examination, Footprints, and the Fifth Body

On February 28 the tent is examined in detail. The fact that almost all personal items, shoes, and outer clothing were left in the tent; that the tent was cut from the inside; and that there were 8-9 sets of footprints leading downward, begin to shape the official case from this date. The closing decision and Maslennikov's statement write that the footprints led from the tent toward the valley and the forest boundary, some showing nearly bare/stockinged feet, and others felt boot prints. On the same days the existence of the labaz is also deduced from documents and route logic; but the labaz itself will be found on March 2 (Ivanov, Closing Decision, May 28, 1959; Maslennikov testimony, March 10, 1959).

On March 2 the Kurikov and Slobtsov groups find the labaz. The presence of food and unnecessary loads here shows that the group did not scatter in an unplanned manner on February 1; they performed an organized deposit for the return trip. This finding indirectly supports that the beginning of the event was not chaotic but tactical and controlled (Maslennikov testimony, March 10, 1959).

On March 5, through systematic probing, Slobodin's body is found. The closing decision positions him on the cedar-tent line, between Dyatlov and Kolmogorova; Maslennikov notes that the body emerged from a point where systematic search had not previously been conducted, from under approximately 12-15 centimeters of snow. Thus the first five bodies are completed and the 'first death line' is roughly clarified (Ivanov, Closing Decision, May 28, 1959; Maslennikov testimony, March 10, 1959).

2.8. May 4-6, 1959: Opening of the Ravine Scene

The second and truly severe part of the case emerges at the beginning of May. The closing decision states that on May 4, Dubinina, Zolotaryov, Thibeaux-Brignolle, and Kolevatov were found 4-4.5 meters under snow, 75 meters from the camp fire toward the fourth Lozva tributary. In contrast, the May 6 incident site protocol records the actual examination and extraction on May 6; while the May radiograms vividly describe the trench excavation beginning May 5, the finding of the flooring, and the body extraction operation in the stream. Therefore in this phase there is a gap of several days between 'first contact, excavation, official protocol,' and this gap must be noted in the chronology; because the ravine scene was not revealed at a single moment but unfolded as excavation progressed (Ivanov, Closing Decision, May 28, 1959; May 1959 radiograms).

The radiograms clarify the nature of this second scene: a cut spruce/fir area to the southwest of the cedar, a three square-meter flooring, inverted and cut clothing pieces, a body in the stream bed, very hard snow, and excavation workers in the water. These details suggest that the ravine line was not a passive sliding and death scene; but a second survival scene where active shelter-building occurred, followed by collapse/crushing/trauma. After this phase the medical backbone of the file also changes; because three bodies in the ravine carry severe closed trauma outside the simple hypothermia line (May 1959 radiograms; Closing Decision, May 28, 1959).

2.9. May 7-29, 1959: Autopsies, Histology, and the Radiation Line

After the extraction of the ravine bodies, autopsies of Zolotaryov, Dubinina, Thibeaux-Brignolle, and Kolevatov are performed on May 9. Here, for the first time, the file splits into two separate death lines: the hypothermia-dominant line of the first five people, and the severe trauma line seen in the last four, diverge from each other. On May 18, Ivanov makes a decision for radiological examination; clothing from Zolotaryov, Dubinina, Kolevatov, and Thibeaux-Brignolle, along with some body samples, is sent to the radioisotope laboratory. The radiological report dated May 29 detects abnormal beta contamination in certain clothing areas; but finds no significant internal radiation in the tissues. During the same month histological analyses are also performed, reinforcing that certain fractures in the ravine group were hemorrhagic during life (Radiological analysis report, May 18-29, 1959; autopsies, May 9, 1959).

This phase is the phase where the chronology begins to close physically but becomes narratively complex. Because the prosecution now faces not only freezing and disappearance, but also elements such as trauma and radiation that do not fit the central narrative.

2.10. May 28, 1959: Closure of the File

The closing decision dated May 28, 1959 is the final carrying text of the official file. Here, all data produced so far is gathered in a single framework: the group ascended the open slope on the wrong line on the evening of February 1, set up the tent, suddenly abandoned it under unknown circumstances at night, descended downward; the first five people died on the freezing line, and the last four on a separate tragedy line that emerged later. The same text announces that no trace of outside persons was encountered, that no accusatory data regarding the Mansi people was found, and that the cause of death was an 'overwhelming force' that the group was unable to cope with. Thus forensic mechanism moves to legal closure without completing the explanation (Ivanov, Closing Decision, May 28, 1959).

The historical significance of this closure is not that it is the date the event was solved, but that it is the date the event was officially simplified and closed. This is the final link of the chronology: the physical evidence had become multi-layered, but the official narrative had reduced them to a single political sentence.

2.11. Preliminary Conclusion of the Chronology

The conclusion emerging from the entire brief chronology is clear. The case flows in three phases:

The first phase is between January 23 and February 1: the hike, the route, the labaz, the final camp decision.

The second phase is the death geography opened in the field from the night of February 2 to May 6: the tent, the footprints, the cedar, the return line, the ravine.

The third phase is the investigation and packaging phase between May 9-28: autopsies, histology, radiology, and closure.

When these three phases are read together, the following fundamental structure is seen:

The physical reality of the event was gradually revealed; whereas the official narrative progressively simplified and moved toward earlier closure. For this reason the chronology of the Dyatlov case is not merely a death timeline; it is simultaneously a process of narrowing explanation.

3. Profile of the Group and Level of Preparation

One of the most frequently made errors in the Dyatlov Pass case is forcing the group to one of two extremes: either 'an elite team, nearly flawless' or 'an overconfident, unprepared group of students.' The file supports neither extreme. The documents provide a more complex but truer picture: This group was not inexperienced; they had serious experience in terms of physical, technical, and organizational matters. But they were also not flawless; they carried notable gaps especially in institutional oversight, route safety, communication, and backup planning. The aim of this section is precisely to establish this intermediate position.

3.1. Official Status of the Group: Grade III, The Highest Winter Hiking Level

The official closing decision explicitly states that the group 'had good preparation to participate in a Grade III difficulty hike.' The same text states that the team was equipped with the necessary equipment and food, and that the expedition was financed by the UPI trade union committee. The group members are also mixed in terms of status: there is a core student group; in addition, Zolotaryov is a tourism base instructor, and Slobodin, Krivonischenko, and Thibeaux-Brignolle are engineers working in enterprises. This composition is important, because right at the outset the file records that the group was not 'amateur tourist kids.'

Maslennikov's testimony dated March 10, 1959 also supports the same line. He recounts that as early as December 1958, Dyatlov came to the club and proposed a Grade III Northern Ural hike, that on January 8 the group showed its detailed project file, and that it presented past hiking categories for each member, a collective and personal equipment inventory, and a budget plan. This testimony simultaneously fixes two things: One, the group prepared a serious route plan. Two, this plan was not a casual student trip outline; it was a formal file that passed through the sports club, route commission, and activist network.

Vishnevskiy's similar account from UPI management is also found in Grigoriev's notes. There it is conveyed that Grade III is the highest hiking difficulty, that the route commission conducted oversight in terms of physical fitness, individual experience, and equipment suitability, and that the Dyatlov group passed this test. Some parts of these notes are compiled later and therefore do not carry as much weight as direct contemporary protocols; but they have supporting value since they align with Maslennikov's testimony and the closing decision.

The first verdict is therefore clear: This hike was not an unsupervised adventure attempted by an incompetent group. The official record accepts that this was a team of experienced individuals in a high difficulty category who went through a formal approval process.

3.2. Leadership and Core Personnel: Dyatlov's Profile

The central figure in the group is Igor Dyatlov. In Grigoriev's notes, Vishnevskiy says that Dyatlov was a fifth-year UPI student; that he had participated in more than one high-category hike and led some of them. This information, while not elaborated in detail in the closing decision, shows that Dyatlov's leadership was not coincidental. The same notes state that the route planned for the group extended across approximately 350 kilometers, meaning it was not a 'simple weekend hike' but a serious winter crossing.

One more detail that Maslennikov gives while describing the January 8 preparation meeting is important: each participant's past number of hikes by category and the sports grade they had earned was individually entered in the project. In fact, one of Maslennikov's first suggestions was to correct the fact that some members had actually earned a higher grade but it had not been documented. The Zina Kolmogorova example is explicitly given here: six hiking history and more than one Grade II experience are mentioned. This detail shows that the group's mountaineering/tourism capital was also tracked on paper.

The conclusion drawn from this: Dyatlov was not inexperienced; he was also a leader who largely knew what he was doing when selecting his team and preparing the route plan. This finding explains why the decisions made on February 1 will later be so heavily debated. Because one of the central questions of the file is: why did such an experienced leader, having experienced the previous day how bad the ridge was, load onto the open slope with a late departure the next day?

3.3. Profile of Other Members: Not Homogeneous but a Strong Team

The team is not homogeneous; this is also its strength. On one side are the UPI students: Dyatlov, Dubinina, Kolmogorova, Kolevatov, Doroshenko, and initially Yudin. On the other hand there are professionals such as Zolotaryov as a professional tourism instructor, and engineer-origin names such as Krivonischenko, Slobodin, and Thibeaux-Brignolle. The distribution in the closing decision gives this clearly.

According to the picture given by Maslennikov and the Grigoriev/Vishnevskiy line, the group members are at the intersection of several different disciplines:

- student tourism and club practice,
- engineering-based planning and equipment habits,
- instructorship and field discipline,
- a history of more than one winter hike.

This structure produces division of labor and resilience in the field. Indeed, as will later be seen from the diaries and field behaviors, the group was still able to develop

systematic hiking techniques in conditions of heavy terrain and deep snow between January 29-31. This is not expected from a low-level team.

Yet a balance must be struck here. These members being 'strong' does not mean each was equally level-headed or flawless in terms of mountainous winter terrain management. The documents do not give us the full psychological distribution; however, what is fixed is this: the group had sufficient experience, but could also enter a very tight error window. Experience does not make disaster impossible; it only weakens the 'pure amateurism' explanation.

3.4. Equipment Level: Not Deficient, but Some Weaknesses

One of the most prominent false narratives in the file is the claim that the group was in a wretched state equipment-wise. This is not correct. When the closing decision and the item identification protocol conducted with Yudin are read together, it is seen that the group had serious amounts of personal and collective equipment:

- 9 backpacks,
- 10 pairs of ski bindings,
- 8 pairs of ski boots,
- 3.5 pairs of valenki,
- stove and pipe,
- large and small axes,
- a two-person saw,
- numerous woolen and cotton socks,
- balaclavas, gloves, gaiters,
- camp kitchen equipment,
- first aid equipment,
- spare equipment and excess items left in the labaz.

The labaz list also shows that the preparation of equipment and food was not random. In the labaz found on March 2 there were approximately 55 kilograms of food, a spare first aid kit, warm boots belonging to Dyatlov, a spare pair of skis, a mandolin, a battery set, and spare sets. This shows that the group managed weight, and built a logistical plan in advance for the return. An unplanned, undisciplined team is not expected to build such a labaz.

Despite this, three weaknesses are seen on the equipment side.

First, the tent itself is old and worn. The tent forensic expertise explicitly states that the tent material was 'worn down.' This does not mean the tent was bad; but it shows that the safety margin under particularly strong wind and snow pressure may have been reduced.

Second, some repair work is ongoing in the field. In the diaries and testimonies there are discussions about tent stitching, burned clothing, repair sets, and equipment. This is

not the direct cause of the disaster; but it shows that the group was not advancing with flawless new equipment.

Third, while most of the equipment is correct, there is no communication equipment. This is not an ordinary gap; it is a structural vulnerability given the route difficulty. The group having no radio, relying only on telegraph-based arrival notification in the event of delay, and having no interim status report, will be one of the main reasons for the late start of the search. The fact that Maslennikov's and the CPSU documents frequently dwell on 'control date,' 'absence of communication,' and 'disorderliness of documents' stems from this.

3.5. Institutional Oversight: Strong Group, Weak System

One of the most important distinctions in this file is: the strength of the group and the strength of the system are not the same thing. The documents show the group as not weak; but the system as loose.

Maslennikov's March 10 statement writes that at the January 8 project meeting he himself gave three suggestions:

- clarification of participant grades,
- processing of reimbursement/support items in the budget,
- most importantly, bringing the control return dates forward.

This third point is especially critical. Maslennikov sees the need to tighten the control date even at the preparation stage. This shows that his risk perception was high.

The second major problem that emerges in the same testimony and later in the February 20-23 process is that the route commission documents were not cleanly and centrally held at UPI. Maslennikov conveys that during search preparation everyone asked 'why isn't the Route Commission protocol at the institute?' This made it difficult to determine at the moment of the event who was going where, who was responsible, and what control mechanism was in effect.

The March 16 physical culture committee and March 27 CPSU discussions found in Grigoriev's notes give the same picture:

- documents were kept scattered,
- protocols were stored in homes,
- no adequate backup plan,
- calendar and return control was not taken seriously,
- UPI sports club worked on 'trust' but did not establish oversight.

For this reason, the thesis to be established here is:

institutional gaps could not compensate for the individual experience of the group.

In other words, the people in the field are strong; but the structure that sent them and was supposed to monitor their return is loose.

3.6. The Control Date Problem: Not a Minor Administrative Detail, but a Structural Error

In the official chronology the critical node is the February 12 control date. The closing decision explicitly states that Dyatlov was required to telegram the UPI sports club and the physical culture committee upon arriving at Vizhay on February 12. After the date passes with no information coming, the search only begins institutionally on February 20.

Maslennikov's testimony shows that on the afternoon of February 20, Ufimtsev informed him that the group had not returned, and that even the first reaction contained hesitation about who should initiate the search. At the beginning, some institutional actors were even reluctant to participate in the search because the team contained non-student names. This proves that the seven-day delay was not just geographical but also bureaucratic.

This delay has two meanings.

First, technically the group was given adequate flexible time; this could be understandable for difficult winter hikes. However the second and more critical meaning is that the institutional definition of what threshold should trigger an alarm in the event of the group not returning had not been clearly defined. The control date was treated like an 'information note,' not functioning as a 'mandatory safety threshold system.'

For this reason, the sentence 'the search started late' expresses not only a time difference; it also shows the weakness of the safety culture.

3.7. Backup Plan Deficiency and the Limits of Route Discipline

Despite the group's strength, one of the structural gaps is the absence of backup plans and withdrawal logic being clearly defined in institutional documents. Grigoriev's notes explicitly state that there were 'no backup variants' and emphasize that this was an error. The route was drawn, kilometers were planned, but how the central institution would react in the event of a deviation or delay had not been pre-defined in an operational way.

What must be noted here is that this does not mean there was no tactical thinking within the group. On the contrary, their establishing the labaz, lightening their load, taking into account the transitions between the forest line and the open ridge, and descending from the ridge the previous day, show that they were capable of generating backup solutions in the field. The problem is more on the institutional side: if the group does not return, changes route, or is delayed, what will the upper system do? The file is weak on this point.

Therefore the following distinction is important:

- tactical flexibility within the field existed,
- institutional backup plan was weak.

3.8. The Yudin Factor: The Surviving Witness's Contribution to the Preparation Picture

Yuri Yudin's presence is very important for this section; because he is the only person who was initially with the group and returned from 2nd Northern. The information Yudin later gave in the item identification shows that the group transferred some medicines, clothing, and items to each other at the last minute. For example, he says he left some of his medicines to Kolmogorova; his fur vest to Kolevatov; and some woolen socks to Dubinina. These kinds of details are important on two counts: one, equipment sharing and preparation within the group was real; two, while Yudin's return may create some confusion about the ownership of certain personal items later, it shows that the initial logistics were active.

Yudin's presence also points to something else about the group's initial conditions: the group was not dogmatic about only advancing with those 'who could go.' Someone whose health deteriorated returned. This shows that at least at the January 28 stage, the leadership and group discipline were strict but not blind.

3.9. Establishing the Thesis: 'Not Amateurs, but Not Flawless Either'

All the data gathered so far condenses into a single sentence:

This group had the experience and physical capacity to conduct a high-difficulty winter hike; however, the system that sent them to the field and monitored them had not established the required oversight and safety-net mechanisms for a route of this level.

This thesis is supported by four document lines:

One: the closing decision explicitly classifies the group as Grade III appropriate, well-trained, and adequately equipped.

Two: Maslennikov says the project file was detailed and member histories were kept by category.

Three: the item and labaz records show serious equipment and logistical preparation.

Four: the same documents also expose institutional looseness through the route commission protocol not being centrally maintained at UPI, the weak operation of the control date, lack of communication, and the delay in the search reflex.

For this reason, two false narratives must be simultaneously rejected here.

First false narrative: 'They died because they were inexperienced.'

This is not consistent with the documents.

Second false narrative: 'A team this experienced could not have made a mistake; therefore there must have been external interference.'

This too is a wrong inference. Experienced teams also make mistakes; sometimes more complex and more costly mistakes. Especially when overconfidence, tactically

motivated altitude choice, route decisions made under fatigue, and intense environmental pressure combine.

The final conclusion of this section is:

The group's profile takes them out of being a simple 'group of amateur victims'; but for precisely this reason, it makes it mandatory to more seriously question the decisions made on February 1.

4. January 29-31: The Last Normal Days

One of the most critical methodological requirements of the Dyatlov Pass case is to read in detail the three days immediately preceding February 1 before directly treating the night of February 1 as the moment of disaster. The reason is simple: The decisions a group makes on its final night are not born into that night; they acquire meaning within the tempo, psychology, level of physical exhaustion, weather perception, and the relationship with the terrain of the preceding days. For this reason, January 29-31 is not merely 'what came before'; it is the key ground of the event.

The fundamental thesis of this section is: The break on February 1 was not a normal and linear continuation of the preceding flow. When the diaries, the last photographs, and weather records are read together, it is seen that between January 29-31 the group was tired but functioning, challenged but not dissolved, carrying error risk but not panicking. Therefore, the cutting of the tent from inside and the semi-clothed mass evacuation on the night of February 1 is not a natural extension of these three days; it is a fracture moment requiring a separate trigger (Dyatlov group diary, January 29-31, 1959; Zina Kolmogorova diary, January 29-30, 1959; 'Unknown diary,' January 30, 1959; January 31 group diary; final photo series).

4.1. January 29: Order, Rhythm, and Field Awareness Not Containing Threat

The January 29 records show very clearly that the group had not yet entered a disaster psychology. The first striking element in Zina Kolmogorova's diary is that the environment is found 'beautiful' and Mansi tracks 'interesting.' Curiosity is felt about the Mansi markings, there is speculation about what they signify, and these markings are even treated as a kind of cultural discovery object. There is neither fear language nor a sense of being followed here. This detail is important; because theories that will later be put forward about a Mansi attack or the group perceiving a hostile presence in the environment find no diary support, at least not at this date (Zina Kolmogorova diary, January 29, 1959).

The group diary on the same day is written in a more technical and dry language: it is noted that the crossing from Lozva to Auspiya was made, advancing along the Mansi track, and the weather was approximately -13°C with light wind (Dyatlov group diary, January 29, 1959). This record is important in two respects. First, the group is not yet under clear meteorological pressure. Second, the route hike is under control; the narrative of the day is on the axis of 'advancing,' not 'survival.'

The hiking rhythm is also noteworthy. The field summary for January 29 states that the group made trail-breaking in rotation, took a break after every seven-person rotation was completed, and stopped approximately every 70 minutes. This shows two basic things: one, the group is collectively managing physical energy; two, tempo and fatigue have not yet turned into a crisis. This kind of regular rotation practice is both an indicator of experience and discipline. Chaotic groups do not advance this way.

The social atmosphere of the same day is also evident. It is Yuriy Doroshenko's birthday; Zina's diary gives an extremely ordinary, even warm evening feeling of lighting a fire, talking, and speaking of the past. Such details cannot be underestimated for understanding the psychological ground of the event. Because what we see here is not a group scattered in fear, but a group that still carries its own internal social order on a cold and difficult northern hike (Zina Kolmogorova diary, January 29, 1959).

For this reason the first conclusion for January 29 is clear: The group is not at war with its environment; it finds the environment difficult but manageable. Mansi tracks are not a foreign threat but a route element; the cold is not a death pressure but a field reality; the evening produces not disintegration but normal camp life.

4.2. January 30: Increasingly Difficult Terrain, Preserved Morale

The January 30 records are a harbinger of a fracture; but not yet the fracture itself. While the diaries record increasing difficulty on one hand, they show on the other that the group's psychological functioning is preserved.

In the Dyatlov group diary the technical ground is first recorded: the third cold night, -17°C in the morning, -13°C during the day, -26°C at night, strong southwest wind, cloudiness and temperature drop. The same text states that advancing on the river was not possible, that they had to repeatedly come ashore due to water under the ice and snow on top, that walking without a trail was very difficult, and that snow depth reached approximately 120 cm (Dyatlov group diary, January 30, 1959). This data clearly shows the seeds of the event: as the route advances, the cost of movement is increasing.

At this point a very important distinction must be made. Worsening conditions do not automatically mean an approaching disaster. But these records show the accumulation that makes the wrong decision on February 1 possible. On January 30 the hike is still continuing, but is becoming increasingly costly:

- the trail is disappearing,
- the river line is not safe,
- the snow is deep,
- going back and forth between the bank and the forest line is necessary,
- the wind is noticeably increasing.

All of this provides the infrastructure for understanding why the group lost time on February 1 and made the altitude/forest choice in a more tense framework.

The 'Unknown diary' places this picture in a more human framework. The reluctance at morning wake-up, the duty penalty, the fire-starting delay, morning jokes, slogan

production, jokes about Mansi markings, and lunch details show that the group's morale is not deteriorating. The expression 'good mood' even appears explicitly (Unknown diary, January 30, 1959). This is very important. Because even within the three days leading to the disaster, the group's internal psychology has not collapsed. There are arguments, friction, verbal sparring about duty; but these are typical intra-team tensions before a mountain accident, not abnormal psychological disintegration.

Zina's January 30 diary also supports this. She notes the cold several times, writes that the Mansi trail has ended, that they advanced along the Auspiya all day, and records the grumbling over the burned glove and Yuri's burned piece of clothing; but the general direction of the text is again duty, watch, and camp order (Zina Kolmogorova diary, January 30, 1959). In other words, the team is still running the camp. One of the best ways to understand that a group's morale has broken down is the collapse of duties; here duties have not collapsed.

For this reason, the second main conclusion for January 30 should be: The environment is hardening, but the team is still working. The hardening of the weather and terrain is not the same as psychological disintegration. On the contrary, these records show that the group has a functioning social and tactical structure even under high difficulty.

4.3. The Strategic Importance of January 30: The Day Danger Was Felt but Not Yet Considered Fatal

The true value of January 30 is that it establishes the ground that makes the great question of the event possible without yet producing it. Three things happen simultaneously on this day:

One: The cost of the terrain increases.

Two: The weather noticeably hardens.

Three: The group has not yet dissolved in terms of morale and rhythm.

This triple combination is the key to understanding the wrong decisions of February 1. Because in most great field disasters, the actually fatal moment is not a direct chaos explosion. Before that comes this intermediate phase: conditions worsen, but the team still believes it 'can manage.' The January 30 picture of the Dyatlov group is exactly this.

Particularly important is the fact that the labaz idea came up on the evening of January 30. Zina's note 'we will probably make the labaz today' shows that the group continued to think about the route and return plan in the long term (Zina Kolmogorova diary, January 30, 1959). This is not a disintegrated group mindset; rather it is an experienced team mindset thinking about weight management and advancement efficiency.

Therefore the following verdict can be established for January 30: This is the day the group is still rational but the material infrastructure of danger has begun to accumulate. This distinction is very important; because explaining the break on February 1 with 'psychology already deteriorating for days' is a simplification that the diaries do not permit.

4.4. January 31: The Day the Ridge Was Rejected

January 31 is the most critical preceding day of the entire case. Because on this date the group directly experiences what the open ridge/ridge line is like and makes its decision accordingly. The Dyatlov group diary is extraordinarily important in this respect.

In the text, tempo and fatigue are first recorded: the hike has slowed to approximately 1.5 km per hour; the trail disappears; a new trail-breaking method is developed; the first person breaks trail 5 minutes ahead without a backpack, then returns and catches up to the group by collecting their pack. This is a pragmatic solution developed under heavy snow conditions. The fundamental data here is: On January 31 the group still has reasoning capacity to generate solutions (Dyatlov group diary, January 31, 1959).

Later the text describes the ascent upward, the thinning of the fir forest, the increasing birch and dwarf pine, that is, the transition to open and more exposed terrain. The truly decisive sentence is: the west wind is felt like 'the jet stream generated at aircraft takeoff'; there are open areas, firn, and wind pressure; under these conditions 'it is not even possible to think about making a labaz here'; it is approaching four o'clock and the group turns back down toward the Auspiya valley again (Dyatlov group diary, January 31, 1959).

This statement must be placed alone at the center of the event. Because it shows:

On January 31 the group knew that the open ridge was a bad overnight option.

This knowledge later produces a fatal comparison for the February 1 decision. The day before, the same team had rejected spending the night on the ridge under 'howling wind' and returned to the deeper snow but more sheltered forest line. Moreover, they write that they had a 'beautiful, warm, comfortable' overnight stay that night. Dyatlov's sentence 'it is even hard to imagine such comfort on the ridge' works like evidence in the next part of the event (Dyatlov group diary, January 31, 1959).

The conclusion from this is sharp: Going to the open slope and setting up camp on February 1 is not a natural continuation of the January 31 mindset. A new compelling factor must have formed between the two days:

- time pressure,
- navigation deviation,
- wrong risk calculation under bad weather,
- overconfidence in the 'one cold night camp' tactic,
- or a combination of these.

The January 31 diary also fixes another thing: the group clearly views a comfortable camp inside the forest as distinctly superior to the open line. Therefore the February 1 decision cannot be explained, as has been constructed afterward, as 'they liked and preferred to stay there.'

4.5. Common Profile of the Last Normal Days: Tired but Unbroken Team

When January 29-31 are read together, the picture that emerges consists of the following five characteristics.

1. The Group Is Functional

Rest order, duty distribution, trail-breaking rotation, camp setup, repair work, watch, and meal flow are working. The most fundamental conclusion from this: The mass evacuation on February 1 is not the simple result of a psychological collapse that had been gnawing at the group from within for days.

2. The Group Is Producing Humor and Everyday Conversation

Doroshenko's birthday, the 'country of mysterious signs' slogan, morning jokes, tangerine sharing, the humorous culture laying the groundwork for 'Evening Otorten'; all of these show that the team's internal communication capacity was maintained before February 1. There is no fear, fatalism, or sense of being followed.

3. Weather and Terrain Are Becoming Increasingly Costly

Snow depth, the ice-water problem on the river, wind, the thinning of the forest line, and open area pressure prepare the physical ground of the event. This ground cannot be taken lightly. However, it must be repeated: Between worsening natural conditions and a tent suddenly cut from inside, an 'intermediate mechanism' is needed.

4. The Group Understands Very Well the Difference Between the Open Ridge and the Forest Line

The January 31 record fixes this definitively. Therefore the open camp decision on February 1 is not the product of ordinary habit; it is a deviation requiring special explanation.

5. The Mansi Line Is Not Generating Threat

In the January 29 and 30 diaries there are Mansi tracks, markings, and shelters; but these appear not as threats but as environmental reality and objects of curiosity. Therefore none of these three days contains a 'hostile pursuit' psychology.

These five characteristics carry the main thesis to be established later: The break on the night of February 1, even if irrational in outward appearance, did not emerge from the ordinary flow of the preceding three days; it requires a separate acute trigger.

5. February 1: Reconstruction of the Final Day

February 1, 1959 is the chokepoint of the Dyatlov case. This date is both the most narrated and the most misnarrated day of the event. All the remaining knots of the file — the tent being cut from inside, the shoes remaining within, the mass evacuation, the fire on the cedar line, the return attempt, and the ravine phase — are built upon a series of decisions made at the end of this day. For this reason, February 1 must be treated

not merely as the 'last day,' but as the critical threshold where miscalculated risk, time pressure, terrain choices, and the overnight decision converged.

The main question of this section is: Why did the group, which rejected the open ridge/ridge line on January 31, ascend the open slope on February 1 and stay there? The answer to this question cannot be given in a single sentence. The available documents do not leave a full diary for February 1; the group diary on that date is essentially represented by the satirical text entitled 'Evening Otorten,' and there is no detailed route diary for that day in the official file. The reconstruction must therefore combine three layers:

- (1) the official time-flow narrative in the closing decision,
- (2) the final photo sequence,
- (3) the field logic inherited from January 31.

5.1. The Morning of February 1: Normality Before Disaster

The strongest direct visual data we have for the morning of February 1 is frame number 1_29 in the final photo series and the few frames following it. The Trek photos archive describes this frame as 'the morning after returning to the Auspiya'; in it, Kolevatov and Thibeaux-Brignolle appear to be in 'good spirits.' In frames 1_30 and 1_31 that follow, Slobodin is seen with a burned quilted jacket; in 1_31 an ice axe is also at his feet. The significance of this sequence is as follows: on the morning of February 1, the group appears neither visually nor behaviorally disintegrated. They may be tired; but there is no moral collapse, no fear, no escape psychology. This also shows that the break on the evening of February 1 cannot be explained by a state of panic that had been building all day.

Another significance of these photographs is the sense of intra-camp ordinariness. The diary clearly states that a good overnight was spent on the evening of January 31; the February 1 morning photographs imply that this ease was continuing. In other words, the group did not begin February 1 'knowing they were on the brink of disaster.' This detail is especially important; because every serious model to be constructed later must place a separate tension layer between the morning and the night. If the morning's scenic language is normal, new conditions accumulated during the day are needed for the evening's break.

5.2. The Meaning of the Labaz: Not Unplanned Scatter, but Conscious Load Management

One of the most important official findings of February 1 is that the group established a labaz on this date. In the closing decision and the labaz inventory found later, it is seen that the group left food and some equipment it deemed unnecessary for the return trip. In the labaz found on March 2 there were approximately 55 kilograms of food, a spare first aid kit, Dyatlov's warm boots, a spare pair of skis, a mandolin, batteries, and various auxiliary materials. This finding fixes something critical: on February 1 the group

is still planning, managing loads, and thinking about the return; that is, it is not acting with the psychology of 'last day, whatever happens.'

The timing of the labaz is also important. The closing decision states that the ascent on February 1 began around 3:00 PM; this suggests that the labaz construction and morning preparation consumed significant time at the beginning of the day. DyatlovPass's February 1 chronology also summarizes that the group advanced 'only about 2 kilometers' that day and set up a tent on the open line for a cold overnight; although this page also contains modern editorial interpretation, the main backbone is consistent with the official file. The key conclusion is: February 1 is a 'late departure day.' And this delay is at the center of the camp decision made in the evening.

At this point the first important analytical conclusion emerges: the open slope decision on February 1 does not appear, as presented in most popular narratives, as 'reckless adventurism'; it rather appears as a forced tactical decision of a day that started late. The group did not start early, first lightened its load, then ascended. This may have left them with two main options in the evening: either return to a lower and safer line, or set up a short-distance cold camp on the open line and advance early the next morning.

5.3. The Intraday Route: Was the Target the Pass, or the Wrong Slope?

One of the most important geographical determinations in the closing decision is that on February 1, instead of the planned Auspiya-Lozva pass, the group — based on preserved ski tracks — veered 500-600 meters to the left of the actual saddle between 1079 and 880, and ascended directly up the eastern slope of 1079. This detail cannot be underestimated. Because the final tent site of the event may not be the 'intended point' but a deviated point. In other words, even if the group chose the open slope, the incline and position it chose was probably not its ideal camp site. This difference is critically important for understanding the chain of errors.

The field model Maslennikov later developed points in the same direction. He suggests that the group may have mistaken 1079's main ridge for the pass in bad weather, that the wind pushed them onto the wrong line, and that they ultimately set up camp in a dangerous wind zone. Maslennikov's explanation is not a contemporary event-moment document, but a field interpretation from early March; yet it is important because it points in the same direction as the closing decision: on February 1 there was not only 'open camp' but also a possible directional error.

In this case, the following possibility becomes strong in the February 1 reconstruction: while the group theoretically believed it was advancing toward the pass direction, in practice it ended up on a worse slope. This builds something of a bridge between the rational decision to reject the ridge on January 31 and the open camp on February 1. Because here, instead of 'they knowingly chose the same ridge again,' the model becomes: 'they were late, ascended under bad weather, remained at the wrong position, and stayed because they found going back down too costly.'

5.4. The Last Photographs: Movement, Load, and Goal Orientation

The last reliable photographs attributable to February 1 are frames 1_32 and 1_33. The Trek photos archive states that these frames show the group 'on the pass' and that Dyatlov is probably carrying the tent; for 1_33 it notes that Doroshenko, Thibeaux-Brignolle, Krivonischenko, and Slobodin are seen alongside Dyatlov. For both frames it is noted that they are found within case files vol.2. This is not just photo catalog information; it is data that establishes the logic of the event. Because the last frames show the group on the open line carrying the tent. That is, the camp decision is still a live option at that moment, and the decision to return has not yet been made.

What these frames reveal is that the afternoon of February 1 was not advancing with the psychology of 'we've already collapsed, wherever we fall will do.' The group is still carrying loads in an organized manner, moving together, and appears on a directed route. This detail is important; because the internal order found in the tent later says the same thing: skis, backpacks, outer clothing, and food were not randomly scattered but found within a meaningful camp layout. When the last photographs and the internal tent order are read together, it is seen that there was a plan and discipline until the moment of camp setup.

The interim verdict from this is: the disaster did not begin before the camp was set up; most probably it began after the camp was set up. This is the strongest conclusion carried by the last photographs.

5.5. Tent Setup Time and the Evening Meal

The closing decision argues that one of the last photographs shows the moment of digging out snow and preparing a platform for the tent, and that based on sunlight/exposure conditions this took place at around approximately 5:00 PM. This calculation is not absolute; but it is the only official timing attempt available in the historical file. DyatlovPass's February 1 page and diaries/chronology page also summarize that the tent was set up at around 5:00 PM and that the final evening meal may have been eaten between 6:00 and 7:00 PM. What must be noted here is: these times are not precise chronometer data but reconstructed time windows. They nonetheless suggest that the evening of February 1 did not start very late, and that despite setting up the tent, the group was still able to establish a certain order before going to sleep.

The tent interior order description in the closing decision regains importance here. According to the text, all skis are under the tent; backpacks and outer clothing are placed in specific arrangements; food is on one side, shoes on the other; blankets and personal items are arranged; and moreover the tent is set up in a way that accounts for the strong wind. This record suggests that the group set up the camp on the evening of February 1 not haphazardly but properly. In other words, the open slope decision may be wrong; but the tent-setting technique does not appear careless.

This detail is very important. Because in the file two separate errors are frequently conflated:

- setting up camp in the wrong place,
- setting up camp badly.

The available data supports the first; it does not support the second. The tent being on the wrong slope is probable; but the conclusion that the tent was set up carelessly from the start does not emerge from the file.

5.6. Evening Otorten: One of the Most Important Traces of the Pre-Disaster Mental State

The most famous but most misused document of February 1 is the satirical text entitled 'Evening Otorten No. 1.' In the case files there is only a typewritten transcript; the original paper is not present. The text openly produces humor: it contains satirical elements such as a 'Love and Hiking' seminar, supposedly academic roles attributed to Tibo and Dubinina, mocking questions about whether nine people can get by with a single stove and a single blanket, a 'new world record for portable stove assembly,' and 'snowmen in the Northern Ural.' Reading this document as a 'cryptic final message' is erroneous; it is the product of intra-camp humor culture.

For this reason, the analytical value of Evening Otorten is psychological, not symbolic. It shows us two things:

First, humor production within the group had not ended by the evening of February 1.

Second, even if the 'snowman/yeti' expression has been subsequently made into conspiracy material, it is clear from the context that this is a joke.

The conclusion from this is important: after setting up the tent, the group is not immediately in terror. At least at some point in the evening, they are in a mental state capable of producing humor. This weakens the explanation that 'they entered camp already in a paranoid state.' Of course, it is not certain exactly when the satirical text was written — whether immediately after the tent was set up, a little before, or during a brief break before camp. However, its being dated February 1 and having entered the case file transcript as such shows that in the final hours of that day, normal intra-group culture was still ongoing rather than mental collapse.

5.7. The Break Between January 31 and February 1: Why Did They Go to the Open Slope?

Now it is necessary to return to the main question of the section. Why did the group, which rejected the open ridge line on January 31, go to the open slope on February 1?

The most honest answer that can be given to this question with the data we have is not a single cause; but a series of combined causes.

A. Late Departure and Lost Day

The closing decision explicitly states that the ascent on February 1 began around 3:00 PM. This shows that a significant portion of the day was spent on building the labaz and preparation. An ascent that starts late narrows the options remaining by evening. There is no longer the luxury of choosing the fully ideal camp site; the question is 'how far can we safely advance?'

B. The Desire to Advance Without Losing the Target

DyatlovPass's February 1 and chronology pages discuss that the group may have been planning a 'warm overnight' around Otorten the next day and a 'cold overnight' on the return. This is an editorial reconstruction; but it is consistent with the labaz and stove-carrying logic. The group probably wanted to stay close to the next day's ascent without losing altitude. This may have made the open camp risk seem acceptable in their eyes.

C. Directional Deviation Under Weather and Visibility

The 500-600 meter deviation in the closing decision suggests that this was not solely 'choice.' If they ascended the wrong slope instead of the targeted saddle, the open camp decision is not a 'consciously ideal choice' but partly the result of a navigation error. That is, the group may have theoretically believed it was in a position close to the pass.

D. The Reverse Effect of the January 31 Experience

This appears paradoxical at first glance, but it is important. Having rejected the ridge on January 31 does not completely eliminate the possibility of an open camp on February 1. On the contrary, since they turned back and made a comfortable camp the previous day, the feeling of 'we can manage one cold night camp' may have increased. That is, experience may have produced confidence rather than fear.

E. Fatigue and Decision Economy

In heavy winter hikes, the most critical break is sometimes not 'the wrong decision' but 'the margin between a good and a bad decision narrowing with fatigue.' On February 1 the team could probably technically see the options; but may have found descending again, searching for a new wooded area, and re-establishing camp too costly in terms of both time and energy.

For this reason, the formula I use for the February 1 open slope decision is:

This was most probably not a heroic choice; it was a forced tactical decision made within a late day, route deviation, desire to preserve altitude, and energy economy.

5.8. Why Does the 'Someone Went Outside' Hypothesis Arise?

Another element that needs to be discussed in the February 1 reconstruction is the hypothesis, appearing strongly in Maslennikov's notes later, that 'one dressed person may have gone outside first.' The basis of this hypothesis is the Chinese lantern found on top of the tent. In his notes from early March, Maslennikov says that the only meaningful object found outside was this lantern, and that this strengthens the possibility that one person may have gone outside dressed; he then reasons that this person's call for help or the event they experienced may have driven the others into mass evacuation. This is not a document written directly on February 1; but it is one of the first serious reconstructions in the field.

This hypothesis cannot be entirely dismissed when thinking about the final hours of February 1. Because:

- after the tent was set up, normal evening order may have begun,
- one person may have gone outside to check the wind/snow pressure/condition on top of the tent,
- those inside may then have suddenly perceived the threat as larger.

Yet discipline must be preserved at this point. This hypothesis is a reconstruction, not a proven sequence of events. What is important here is to keep in mind, instead of a primitive model like 'the tent was set up, dinner was eaten, everyone suddenly went crazy for no reason,' that the initial outdoor warning on the evening of February 1 may have started with a small moment.

5.9. Conclusion of the Section

The fundamental conclusions from the reconstruction of February 1 are as follows:

- Morning and intraday data show that the group was still functional and controlled; there is no panic (final photo series; Evening Otorten transcript).
- The labaz having been established proves that the group did not spend the day without a plan; on the contrary, they were thinking about the return and load management (labaz inventory; closing decision).
- February 1 is a day with a late-starting ascent; this placed the evening camp decision under pressure (closing decision, May 28, 1959).
- The group most probably deviated to the eastern slope of 1079 instead of the targeted saddle; so the final camp site may be a deviated position, not the ideal one (closing decision, May 28, 1959).
- The open slope decision, while appearing contrary to the January 31 experience, can be explained by the combination of late departure, desire to preserve altitude, directional error, and fatigue.
- Until the tent setup, everything can be read as a chain of decisions that appear wrong but within rational limits; the disaster most likely began after the camp was set up.

For this reason, the most accurate interim verdict for February 1 can be stated as follows:

The group went to the open slope on February 1 not 'because they liked it,' but because within the late hours of the day, route deviation, the next day's target, and energy economy, they considered it the least bad option. The disaster itself did not explode within this decision, but after the tent was set up.

5.10. Meteorological Data and Slab Formation Conditions

The Burmantovo meteorological station data for February 1, 1959 provides a critical framework for evaluating the first trigger of the event. In the 15:00 measurement, north-directed wind is approximately 5 m/s; toward midnight the wind turns northwest; and around 3:00 AM it continues westward at approximately 3 m/s. On the Beaufort scale these values indicate strong wind effect approaching level 8 in places. In the same time

frame, temperature was measured at -15°C (midnight) and -21°C (03:00) at the 131-meter reference altitude. Given that the camp area is at approximately 830 meters elevation, the -20/-21°C band is reasonable via linear interpolation (Burmantovo meteorological station records, February 1959; Maslennikov field notes).

Another important data point: precipitation is zero. This weakens the classic avalanche mechanism, while creating ideal conditions for wind-transport slab formation. The north/northwest wind continuously transported and deposited snow onto the eastern slope of 1079 — exactly where the tent was located. The accumulated snow hardens over time and begins to behave like a plate. This can produce a local pressure or fracture in the middle of the night without making a sound.

For this reason, it is technically supported that the open slope where the tent was set up was exposed to an increased snow load throughout the day and may have produced local slab instability. However, this data does not prove that a collapse occurred; it only shows that it was physically possible and plausible. The role of the meteorological data in the chain must be clarified. This data is not a supporting parameter for the slab hypothesis — it is a necessary but insufficient condition. Without wind loading, producing slab instability becomes harder; thus meteorology carries the physical ground of the main trigger argument. When the data from the Burmantovo station taken at 131-meter reference altitude is transferred to the tent area at 830-meter elevation, an altitude correction is needed. Using the standard power-law profile for mountainous terrain: V(830) = V(131) × (830/131)^α. The α coefficient is estimated in the range of 0.20–0.28 for mountainous terrain. If the station measurement is approximately 5 m/s in the first half of the night, the estimated speed for the tent elevation within this range falls into the 7-9 m/s band. These values are at the Beaufort 4–5 boundary, above the sufficient threshold for snow transport.

Here the orographic effect does not weaken the slab hypothesis; it strengthens it. The wind blows from the north/northwest; the tent is positioned on the eastern slope of 1079, that is, in a full lee-side position. Under this condition, the wind erodes snow from the western and northwestern slopes and continuously deposits it on the eastern slope. Since snow transport rate is proportional to the cube of wind speed ($Q \propto U^3$), the uncertainty in wind speed estimation affects the deposit amount not linearly but exponentially. That is, a ±2 m/s deviation in wind speed estimate creates a large difference in the amount of snow accumulated on the eastern slope throughout the day.

As a result, orographic correction increases the precision of meteorological data compared to linear interpolation, and places the leeward deposition mechanism on a physically stronger foundation for slab formation. The confidence interval can be moved from 55-65% to 65-72%. The remaining boundary uncertainty is the lack of knowledge of the precise value of the α coefficient for local topography. This value can only be finalized by field measurement. Source: Burmantovo meteorological station records, February 1959; Maslennikov field notes.

The fact that fresh precipitation is zero and the wind is only from the north/northwest makes a general and massive avalanche physically impossible. However, the transport of existing snow by the same wind to the slope where the tent is located makes the formation of a local 'slab' (snow plate) necessary. This data, while killing the giant

avalanche theory, is the greatest meteorological evidence that makes the local snow collapse theory the main model.

5.11. Evacuation Trigger: The Boundary Between Perception and Reality

The node with the lowest confidence interval in this file is the evacuation trigger. The cutting of the tent from inside and the controlled descent show that a real or believed acute threat perception is required; however, exactly which trigger produced this decision cannot be definitively established. The data we have leaves two possibilities open: real mechanical threat and false threat perception.

First model, real mechanical threat: Burmantovo data shows that north/northwest wind transported snow to the eastern slope of 1079 throughout the day. A wind-compacted slab layer may locally slide at night or apply pressure on top of the tent. In this case the decision is a rational response to a real physical threat. Confidence: 65-70% (Burmantovo meteorological station records, February 1959).

Second model, false threat perception: The tent was not completely buried; a full avalanche did not occur. A small snow slide, wind load, or nighttime visibility deterioration may have directed the group inside toward the perception of 'avalanche is coming, we're being buried.' In this case the decision is the product of rational but erroneous data assessment. It also explains the cutting of the tent, the controlled descent, and the return attempt. Confidence: 60-65%.

Both models produce the same behavioral outcome; therefore there is no data to close the gap between them. The area of highest uncertainty in the model is the decision moment inside the tent. This gap stems from the absence of data.

6. Physical Forensic Analysis of the Tent

The central node of the Dyatlov Pass case is the tent. The reason is simple: virtually every major theory in the case — avalanche, wind, military intervention, mass panic, the chain starting with a single person outside, animal attack, group psychosis — must ultimately rest on the same question: Why did the group not leave the tent in an orderly manner through the normal entrance but instead exit by slashing the fabric from the inside? Without solving this question, the case can only be discussed in general terms; the physical core cannot be reached.

The purpose of this section is to treat the tent not as a symbol but as a forensic object. It is therefore necessary to examine three levels together:

- (1) the physical condition of the tent at the incident site and after the incident,
- (2) the cut-tear distinction and interior/exterior direction determination in the forensic expertise,
- (3) the methodological limits of this examination.

Discipline is essential at this point. Because one of the greatest deficiencies in Dyatlov literature is treating the tent either as a completely solved object or turning it into a blank surface for endless interpretations. Whereas the available primary records allow us to say certain things about the tent with high confidence; in others they only permit the construction of strong probabilities.

6.1. Basic Physical Condition of the Tent at the Incident Site

According to the closing decision, the tent found on the eastern slope of 1079 on February 26, 1959 was found together with all its equipment and food inside. The decision clearly states that the tent was in 'well-preserved' condition, that blankets, backpacks, storm jackets, trousers, and other items remained inside, and that almost all shoes and outer clothing were inside. The same text also says that the tent was properly set up and served its nighttime function.

This record alone is very important. Because it simultaneously constrains two false narratives:

- the narrative that 'the tent had collapsed from the start, it was unusable,'
- the narrative that 'the tent was already disorderly and messy.'

The current official language, on the contrary, shows that the tent was set up in a way that would provide overnight accommodation and that when the group left the camp, there was still an organized layout inside. This means: before the evacuation, the group was using the tent as a functioning overnight shelter. What caused them to leave the tent was not, at least initially, a simple reason like 'the tent couldn't be set up.'

The same backbone is seen in Maslennikov's early field notes. The skis under the tent, blankets, outer clothing, boots, stove, and personal items are constantly mentioned; in some notes there are even thoughts reflecting the feeling that 'if they hadn't gone out, they could have stayed in the tent.' This shows that even in the field, the initial shock produced the question 'why did they come out for no reason?'

Therefore the initial physical profile of the tent is as follows:

- set up for overnight stay,
- an object in which most of the outer clothing and shoes remained,
- abandoned abruptly from inside,
- but still a usable shelter immediately before being abandoned.

This initial profile, when combined with the manner in which the tent was cut later, produces the main tension of the event.

6.2. Structure of the Entrance: Was Normal Exit Possible?

The forensic expertise report describes the physical structure of the tent in detail. At the left end there is an opening serving as an entrance, consisting of two unsewn halves of fabric; this opening is lined with a white sheet from the inside. At the right end there is a small round hole for ventilation purposes. There are rope loops at the edges; a

tensioning rope on the ridge line at the right end is missing. The tent is in a 'worn down,' that is, worn-out condition. The expert also clearly states that the tent came to the investigation in a 'disorderly-crumpled form,' and was then reconstituted — with the help of Yudin — in a form approximating how hikers typically set up for overnight stays.

The first conclusion of this description is: the tent has a normal entrance.

That is, the group theoretically did not need to slash the fabric to go outside. The entrance is at the left end of the tent and is used under normal camp conditions. For this reason, the question 'why the fabric, not the door?' is truly the central question; not rhetorical.

A frequently made error here is to automatically discount the entrance by saying 'it must have been blocked by snow.' The available document does not directly say this. There is missing data regarding how much snow load was on or at the mouth of the tent, whether the entrance could be opened, and how much the layout inside made reaching the entrance more difficult. Therefore, the sentence 'the entrance was unusable' is at this stage an assumption; not a document sentence.

Yet there is another physical level: the tent layout. The closing decision and field notes show that shoes, outer clothing, and backpacks were arranged in specific ways inside. If the group was in a semi-horizontal position, under blankets, with heads oriented toward the wind-sheltered side, reaching the left-end entrance in the middle of the night — especially under a sudden threat perception — could be a decision measured in seconds. For this reason, the answer to the question 'there was an entrance, so why didn't they use it?' must be sought not only in the architectural, but in the combination of time pressure + internal layout + threat perception.

6.3. The Forensic Distinction Between Cut and Tear

The tent forensic expertise is one of the cleanest and most technical texts in the Dyatlov file. Expert Churkina does not treat all damage equally from the outset; on the contrary, she categorizes the numerous damages on the tent into two classes. There are numerous damages on the tent, especially on the right inclined roof surface; however, only three of these — those conditionally marked 1, 2, and 3 in the report — are assessed differently from the others. The justification is textile physics. The expert explains that in woven materials, a tear generally advances more evenly and at right angles along the 'line of least resistance,' that is, either in the weft or warp direction; whereas a cut disrupts both weft and warp threads at different angles, randomly. This explanation is the core of the forensic text.

The details of the three damages are then given:

- Damage No. 1: the fracture is in the form of a straight line, with a total length of 32 cm; there is also a small puncture of approximately 2.2 cm on it.
- Damage No. 2 and 3: they are in irregular curved form; their approximate lengths are 89 cm and 42 cm respectively; since there are fabric deficiencies at some of their edges, their continuations are thought to possibly be longer.

This point yields a critical conclusion:

Not all openings on the tent were produced at the same time and by the same mechanism.

Only three major damages are cuts; the rest are tears. This is very important. Because popular narratives frequently paint a crude picture of 'the tent was stabbed everywhere with a knife.' The expert report, however, gives a more sophisticated picture:

- first, certain specific cuts were opened,
- then other damages formed as tears.

This is meaningful in terms of evacuation dynamics. Most probably the first exits began with cuts at a few specific locations; after that the tent either burst from inside, was torn by snow/wind pressure from outside, or was torn elsewhere during the search and transport process. That is, the distinction between 'cut' and 'subsequent general disintegration' must be preserved.

6.4. Were the Cuts Made From Inside or Outside?

This is the most critical finding of the report and has been the main structural element determining the physical backbone of the file to this day. Churkina does not merely say 'it is a cut'; she also attempts to determine from which side it was made through microscopic examination. In examination conducted between 0.6x and 56x magnification, it is stated that near the cuts, small linear punctures, thread cuts, and fine scratches are found on the inner surface of the tent. All of these scratches and punctures are observed on the inner surface; at some corner points, the punctures have fine scratch extensions on the inside. The expert concludes that this morphology shows that the inner surface of the fabric came into contact with a blade edge and that the existing cuts were made from inside outward. The final verdict is very clear: all three major cuts were made from inside the tent.

This finding establishes the backbone of the case. Because it directly weakens the following theories:

- an attacker came from outside and cut the tent, forcing the group out,
- the Mansi or a third party slashed the tent from outside and entered,
- the main cuts are the result of an organized intervention made from outside.

This does not completely nullify the possibility of external intervention; but it clearly places the maker of the main cuts within the group. The will that split the tent and opened the evacuation path is, at least initially, inside.

The analytical conclusion of this is weighty. Because the question now transforms from 'who cut it?' to 'why did those inside feel compelled to do this?' The physical forensic analysis of the tent in the Dyatlov case pushes us not toward conspiracy but toward mechanism.

6.5. Why Cuts, Not the Door?

This is the central question of the section, and there is no direct answer in the documents. However, when forensic and spatial data are read together, several strong explanations can be produced.

1. Sudden Time Pressure

This is the strongest explanation. The tent has an entrance; if the fabric was still slashed despite this, it is most probably because reaching the door or exiting through it one by one was considered too time-consuming. Such a decision is not made during an ordinary nighttime discomfort. The feeling of 'right now, we need to be outside within seconds' is needed. This feeling may arise from a real threat or from a false threat perception; but its essence is the same: the door did not seem fast enough.

2. Internal Layout and Blockage

The interior order described by the closing decision and field notes shows that shoes and outer clothing were gathered on one side, and backpacks and blankets were arranged. In sleeping mode, especially in a layout where heads are turned toward the wind-sheltered slope, reaching the left-end entrance may have required crawling inside, crossing over items, and queuing. In this case, even if the entrance theoretically existed, it practically produces a 'insufficient speed' problem.

3. The Possibility of the Entrance Being Partially Obstructed

The document does not say this directly, but external snow pressure, loading on one side of the tent, or the distribution of items inside may have further complicated access to the entrance. One must be careful here: we cannot say 'the entrance was completely closed'; but it is possible to say 'the entrance was not considered sufficiently suitable.'

4. The Cuts Opened an Exit Near the Sleeping/Head Side

The closing decision states that the cuts were on the line where the group had placed their heads and which was the lee side. This suggests that the cuts were not random but produced an emergency exit close to where people were located at that moment. That is, this decision is also related to who was lying where inside the tent. In other words, the cuts may have been opened at 'the most quickly accessible points.'

When these four elements are considered together, the strongest answer to the question of why fabric rather than the door is:

The people inside the tent believed that using the normal entrance would be too slow or too risky.

This is a very significant conclusion for the case. Because under this sentence, only a real emergency threat or a situation perceived as such can be written.

6.6. The Right Inclined Panel and Wind Direction

The fact that the cuts and heavy damage were on the right inclined roof surface is also important for interpretation. The closing decision states that the cuts were on the 'lee side,' that is, the wind-sheltered line, on the side where people had placed their heads.

The forensic expertise also records that the damage was concentrated particularly on the right inclined roof surface. These two records together suggest that the logic of the tent's placement was adjusted according to the wind, and that the damage was also concentrated on the wind-related side.

Two lines of explanation are possible here:

First, people were lying on that side and therefore the cuts were opened there.

Second, since the snow/wind pressure was more directly felt on that side, the source of the threat was perceived there.

These two explanations do not exclude each other; in fact they probably combine. If the group experienced something like snow loading on one side of the tent, sudden pressing of the tent, or the fabric coming inward, the most rapid response being given from exactly that side is logical.

6.7. Snow Load and the Possibility of Partial Collapse

There is no explicit sentence in the document saying 'the tent collapsed.' However, both modern scientific models and the logic of the incident site suggest that at least partial snow pressure or the fear of collapse on top of the tent is a serious candidate. Discipline is again needed here: the possibility of snow load and complete burial after a full avalanche are not the same thing.

The closing decision emphasizes that the tent was solidly set up on skis and that order was maintained inside; this differs from what is expected in a case of complete burial. However, the cuts from inside and the sudden evacuation show that the tent did not appear safe at that moment at least. The modern slab avalanche model enters exactly here: even at a low angle, a small but hard snow slab slide or loading may have created an apparently lethal pressure on top of the tent. The purpose of this section is not to discuss the modern model; but it is necessary to note that the physical data of the tent opens a door to this. That is, the tent analysis does not say 'an avalanche definitely occurred'; but it does not exclude 'snow pressure / fear of partial collapse.'

In my view, the most careful expression at this point is:

On or on one side of the tent, a snow pressure, a pressing, or a sign of collapse may have formed sufficient to make those inside no longer view the camp as safe.

This expression is both consistent with the document and does not fall into unnecessary claims of certainty.

6.8. Methodological Limits: How Reliable Is the Expertise?

The forensic expertise is very strong, but not flawless. The main reasons for this are as follows:

1. The Tent Was Not Examined With Its Original Tension at the Incident Site

The expert states that the tent was delivered to them in a disorderly and crumpled state, and was then reconstituted — with Yudin's help — in a form approximating 'hikers' typical setup.' That is, the examination was conducted not on the original tension, fabric angle, and snow load distribution at the time of the event, but on a reconstruction. This does not create a very large problem regarding the direction of the cuts; but it creates a limitation for the exact geometry of snow load, entrance access, and damage distribution at the time of the event.

2. The Tent Was Removed and Transported From the Incident Site

Transportation, unfolding, wind, the search process, and subsequent interventions may have altered the original state of some tears. The expert already acknowledges this complexity by categorizing three main damages as cuts and the rest as tears. This is the strength of the report; but also its limitation.

3. The Accessibility Level of the Entrance at the Time of the Event Was Not Measured

That there was an entrance in the tent is clear; but the question of how difficult it was to reach this entrance at the time of the threat has not been experimentally measured. Therefore neither 'the entrance could easily be used' nor 'it was impossible' can be stated with certainty.

4. The Exact Time Sequence of the Cuts Is Unknown

It is strongly established that the three main cuts were made from inside; but it is unknown which was opened first, how much of each corresponded to a single-person vs. wider exit, and exactly at what stage the tears formed.

Therefore the tent expertise states the following three things with high confidence:

- there are three main cuts,
- these are cuts, not tears,
- they were made from inside.

But it does not state the following three things with absolute confidence:

- the entrance was completely unusable,
- the exact level of snow pressure was such-and-such,
- the cut sequence and evacuation choreography were exactly so.

Preserving this distinction is analytical integrity.

6.9. What the Tent Tells Us: External Attack or Internal Urgency?

The forensic language of the tent narrates internal urgency more than external attack. The cuts were opened from inside, not outside. Large items, food, and outer clothing remained inside the tent. Footprints led outward. Neither struggle nor third-party tracks were recorded around the tent. This leads to a very firm conclusion:

The tent shows the first moment of the event not as a scene of attack, but as an emergency scene where those inside made a sudden and collective evacuation decision.

After this point the discussion moves from 'who cut it?' to the level of 'why were those inside compelled to do this?' And this transition forms the common point of all serious models in the case:

- the slab / snow load model,
- the extreme wind and tent pressure model,
- the chain model initiated by a single person who went outside,
- the meteorological/light source-induced panic model

— all must first explain this sense of urgency inside the tent.

The tent itself rejects only one thing:

The model of 'someone came from outside, cut the tent, and forced them out.'

6.10. Conclusion of the Section

The physical forensic analysis of the tent yields the following conclusions:

- The tent was found as an overnight shelter still giving the impression of usability after the event, with most outer clothing and shoes remaining inside; that is, it was a functioning shelter before the evacuation.
- The tent has a normal entrance; therefore the slashing of the fabric is a genuine emergency exit preference, not routine use.
- The three main damages on the right inclined roof surface are, in terms of textile morphology, cuts, not tears.
- Microscopic examination shows with high confidence that these three cuts were made from inside.
- A significant portion of the remaining damages are tears; that is, not all damage on the tent was produced at the same time and by the same mechanism.
- The expertise is very strong, but does not give the full tension and snow load geometry at the time of the event; because the tent was examined in its subsequently reconstructed state.
- For this reason, the strongest thing the tent tells us is not external attack; but an emergency evacuation urgency in which those inside believed that the normal entrance was not fast or safe enough.

The most accurate answer that can be given to the central question of this section is:

The fabric was slashed rather than the door; because those inside believed that the normal entrance could not get them outside fast enough. This belief is consistent not with ordinary discomfort but with a real or perceived acute threat.

7. The Initial Evacuation and Footprints

In the Dyatlov Pass case, the first physical link after the tent is the footprints. Once it is accepted that the tent was cut from inside, the next necessary question is: how did the people who came out from inside move? Did they scatter running, did they crush each other going down, or did an initially controlled withdrawal occur? The answer to this question is critically important for understanding the first seconds of the event; because between the moment of exit from the tent and the first findings on the cedar line, these tracks are the only direct spatial link we have.

The fundamental thesis of this section is: there was no complete chaos at first; there was a movement that was controlled but gradually deteriorating. The main data supporting this thesis are:

- the observation of a trail sequence of 8-9 people leading downward,
- in some portions of the tracks, close and same-direction advance being observed together,
- some tracks showing felt boot, some sock or nearly bare foot character,
- the tracks being preserved in a convex/raised form due to the wind blowing the loose snow around them,
- but the tracks completely disappearing further below due to deep snow and weather conditions.

The purpose of this section is not to romanticize or exaggerate the footprints; but to solve the behavioral logic of the first evacuation as much as possible through physics.

7.1. Source and Limits of the Footprint Data

We have three main layers regarding the footprints.

The first is the closing decision dated May 28, 1959. This text states that preserved tracks were found below the tent, that there were 8-9 pairs of them, some having nearly bare/single cotton sock character and others felt boot/soft boot character, and that the tracks showed an order of being close to each other, sometimes merging and sometimes separating again. This text gives the main backbone of the official and contemporary framework.

The second is Maslennikov's radiograms and notes. Here it is stated that from the tent approximately one kilometer downward there were tracks of 8-9 people, that only one person was wearing shoes, and the rest were in socks or barefoot. This data complements the more general formulation in the closing decision with a language closer to the field.

The third is the photo notes and search photo series. Particularly the Sheet 104a note describes that people walked on soft snow, that later the tracks remained convex/raised because the wind blew away the loose snow around them; that in some spots foot and heel were clearly visible, and in other spots the tracks were eroded due to strong wind.

In icy areas between rocks, the tracks appeared as hollow/void shapes under thin ice. This technical detail explains why the tracks were still discernible 26 days later.

However, the limits are also clear. When the search began on February 26, no one initially preserved these tracks with criminal evidence sensitivity. As also noted in the summary of the 1959 Search page, the search teams initially operated with the expectation of live rescue, so the surrounding tracks were not preserved in an unquestionable manner afterward. Therefore we have photographed and described tracks; but there is no complete map of all foot movements on the night of the event.

Therefore everything to be said about the footprints must preserve the following principle:

We have a strong but partial footprint picture; there is no complete choreography.

7.2. The Number Question: 8 or 9?

The first node of the footprint discussion in the Dyatlov case is the number question. The closing decision says '8-9 pairs of tracks.' Maslennikov's radiogram uses the expression '8-9 people.' In later technical interpretations and additional interrogations, it is sometimes stated that 8 pairs were clear and the 9th was debatable, because some tracks overlapped. An additional interrogation summary conveyed on DyatlovPass states that Maslennikov saw all tracks together in a limited section, while elsewhere 3-5 people or fewer could be distinguished in fragments; and that eight pairs of tracks were clear while the ninth was debatable due to overlap.

Why is this number important? Because after Yudin returned, the group is nine people. If the track series shows 8-9 people, this yields the following two conclusions:

- The number of those who went outside is very close to the entire group, meaning the departure from the tent was a collective movement.
- It makes the model of 'some stayed inside, some came out later' more difficult; at least in the first main line, the tracks are wide enough to cover the entire group.

The point to be noted here is: the number 8-9 does not mean 'a separate, clearly counted net foot series for each individual.' On the contrary, it is an approximate total extracted from a field where tracks approached each other, overlapped, and were partially erased by wind. That is, the number carries data at the level of behavioral pattern, not forensic identity level.

My interpretation at this point is:

The fact that the footprint count is 8-9 supports with high confidence the conclusion that 'most if not all of the group came out together'; however, it does not answer the question 'whose was each track?' This distinction must be preserved.

7.3. The Form of the Tracks: Not Running, Dragging, Falling; But Walking

The quality of the tracks is more important than their number. The closing decision uses language clearly saying that 'people walked from the tent toward the valley and the forest'; Maslennikov's notes also describe the tracks as a line going 'downward from the tent.' The photo note in Sheet 104a adds a more technical detail: in some places the foot and heel are very clearly distinguishable. This detail seems small, but is decisive. Because a track where the heel and foot are clearly seen, in most cases, indicates controlled stepping; in panicked escape by jumping, rolling, crawling, or dragging, such clear heel-front foot composition is less expected.

The first major conclusion from this is:

The group did not scatter at a run in the first moment after coming out of the tent.

This is one of the most neglected but most important findings of the event. If a completely uncontrolled panic had been experienced at the moment of exit, the expected picture would be:

- wide scattering of tracks,
- signs of falls/staggering and dragging,
- overlapping steps piled on top of each other,
- directional inconsistencies,
- some individuals breaking off in different directions.

The official description, however, gives the opposite:

- tracks are in the same general direction,
- close to each other,
- sometimes merging, then separating again,
- going downward and toward the forest line.

The meaning of this 'close, merging and separating' description is:

The group most probably shared the same orientation initially. It cannot be said that there was full consensus on where everyone was going; but at least in the direction of 'down/forest line' there is a common directional decision.

My hard inference at this stage is:

The initial evacuation is not a completely disorderly scattering like live burial panic under an avalanche; it is an urgent but directed withdrawal.

7.4. Close Formation: As a Group or Individually?

The closing decision states that the tracks were 'close to each other' and 'merged and separated again.' The same structure is repeated in Bogomolov's summary. This is a very important detail. Because such an order generally shows that in the initial phase group members were moving while seeing each other, or at least while sensing each other. There is no full single-file discipline; but it is not scattered either. Those who

came out of the tent can be thought of as initially clustering and then spreading out but continuing in the same direction.

Two possible sub-models exist here:

Model A: Mass exit and descending together

Those who came out of the tent walked downward at close positions initially, probably at short intervals and on the same general line. This model well explains the convergence and then separation of the tracks.

Model B: Serial exit from tent, then rapid clustering

The first few seconds of exits may have been from separate points and in different order; but a few meters from the tent, people may have converged on the downward line. This model also fits the combination of multiple cuts in the tent and close tracks below.

The common conclusion of both models is:

In the first moment, there were no individuals who had broken away from each other and scattered in different directions.

This says a great deal about both the nature of the external threat and the intra-group discipline. It shows that the group had not completely lost its collective decision capacity, at least in the first 100-500 meter section.

7.5. Socks, Bare Feet, and Felt Boots: What Does the Clothing Situation Say?

The most striking part of the footprint section is the data about shoe condition. The closing decision states that some tracks were 'nearly bare,' some had 'single cotton sock' character, and others had felt boot/soft sock character. In Maslennikov's radiogram from around February 28, it says 'one person had shoes; the rest were in socks and barefoot.' These two records are not exactly the same, but they show the same reality: the group was not fully equipped.

There are two critical analytical conclusions here.

1. The evacuation was sudden

If the group had left the tent in an orderly and planned manner, the probability would have been high that all members took their shoes and outer clothing. But the most important data carried by the tracks is that at least the large majority came out completely without shoes or half-shoed. This is also consistent with the items left inside the tent. Therefore the tracks say the same thing as the item order in the tent:

the exit is not prepared, it is sudden and with incomplete equipment.

2. Yet not all members are equally unprepared

The closing decision and radiograms show that not all tracks are the same. Some people have felt boot character, some only socks, some nearly bare feet. This shows that the exit from the tent was not in absolute equality. That is, not everyone jumped out at the same time, in the same position, and with the same equipment. Some people may be better dressed; some are in worse condition.

This detail will later combine with the differences in clothing of the bodies on the cedar line and the return line. Particularly, those who are better dressed being found on a higher line or some of them trying to return may be thought of in connection with the equipment differences in the initial evacuation.

For this reason, one of the strongest conclusions from the footprint section is:

The evacuation is collective but not symmetric.

Everyone has come out; but not everyone has come out at the same level of preparation.

7.6. Preservation of the Tracks: Why Were They Still Visible 26 Days Later?

This is a frequently asked but usually incorrectly answered question in the Dyatlov case. How are footprints still visible 26 days later? The photo note is very valuable here. Sheet 104a clearly states that people walked on soft snow; that the loose snow around them was later blown away by the wind, and that therefore the walking line remained as raised, convex, distinct tracks. That is, what is actually seen is not the surface of fresh footprints; but the compacted snow, appearing like relief after the surrounding looser snow flew away. The appearance of hollow/void shapes under a thin ice layer at some rocky points is another version of the same mechanism.

This explanation is also consistent with some later technical interpretations. In Shkryabach's assessment text, it is argued that the tracks appeared approximately 5-8 cm raised, that the surrounding snow was blown away by wind, and that the area where the tent was may actually have had more snow accumulated at the time of the event. Although this is a secondary criminalist interpretation, it is consistent with the basic physics in the photo note: wind may not have destroyed the track; on the contrary, by hollowing out its surroundings, it may have made the track more visible.

The important conclusion here is:

The preservation of the footprints does not necessarily mean there were extremely calm conditions that night. On the contrary, a certain type of wind movement can blow away the loose surrounding snow and make compressed footstep impressions more visible in a raised form. This detail weakens the crude argument of 'if tracks exist, there was no storm.'

7.7. Where the Tracks Disappeared: When and Why?

Maslennikov's radiogram states that the tracks could be followed for approximately one kilometer, after which they disappeared due to deep snow. The closing decision is more

cautious; it writes that they were 'well preserved for up to 500 meters.' This difference should be read not as a contradiction but as a difference in observation threshold. Probably:

- the first 500 meters were more clearly distinguishable,
- further below, some track characters were still distinguishable,
- but then the track chain became unreadable due to deep and loose snow and terrain shape.

This point is very important. Because the tracks becoming invisible does not mean people deviated to another direction and were lost. It more shows that the physical recording medium changed:

- the slope changes form,
- snow deepens,
- wind accumulation differs,
- as the forest boundary is approached, the surface type changes.

In Maslennikov's notes and in later search plans, probing and dog searches are deployed for this reason. Where the tracks disappeared is not where group behavior ended; it is where the tracks are no longer readable.

This distinction is important, because some extreme interpretations leap to the conclusion 'the tracks ended here, meaning another force came into play here.' However, the field logic available to us is simpler and more solid: the tracks disappear because the snow physics changes.

7.8. To What Extent Do the Footprints Exclude the Third-Party Possibility?

The closing decision states that it could not be established that people other than the Dyatlov group were present around 1079 on February 1-2, 1959. This sentence is often interpreted absolutely as 'there were no external tracks at all.' But a more careful expression is: the investigation was unable to find reliable tracks to establish the presence of other people. Also, as indicated on the Discrepancies page, weather conditions may have destroyed not only foreign tracks but also a large portion of the group's own tracks. That is, the reality that 'even the group's own tracks are not everywhere' must not be forgotten.

This still yields an important conclusion. Because the available tracks do not give the appearance of compulsory transport with third-party escort at least in the initial exit phase. That is, a scene like the following is not visible:

- victims being walked among other boot tracks,
- multiple mixed fight/chase tracks around the tent,
- foreign groups going in different directions from the tent.

The available track series, on the contrary, suggests that the group descended in its own way and with its own orientation. For this reason, the footprints do not by

themselves make the third-party theory impossible; but they keep the first evacuation scene within the domain of intra-group decision-making.

7.9. Behavioral Model of the Initial Evacuation: Urgent but Controlled Withdrawal

When all the data is combined, the best behavioral model for the initial evacuation appears to be:

- An acute threat or threat perception forms inside the tent.
- The normal entrance does not seem fast enough or safe enough; cuts are made.
- The group comes out largely together.
- In the first meters there is no complete scattering; people advance in the same general direction, close to each other.
- Equipment levels are not equal; some are better dressed, some are much worse dressed.
- The common target is most probably downward/the forest line.
- Further ahead, as cold, fatigue, direction, and decision cost increase, this initial order gradually deteriorates.

The strength of this model is that it is consistent with both the tent cuts, the footprints, and the fire scene and body line at the cedar further on. If the initial movement had been complete chaos, it would have been harder to so quickly establish a shared fire scene at the cedar. If the initial movement had been very slow and ceremonious, the shoes and warm clothing remaining inside could not have been explained. Therefore the footprints support a model standing exactly in the middle:

not a planned march; but not an uncontrolled rout either.

7.10. Conclusion of the Section

The conclusions from the footprint analysis are as follows:

- The track series going downward from the tent points to a collective evacuation of approximately 8-9 people; this number suggests that nearly the entire group came out together.
- The tracks are distinct enough for heel and foot form to be discernible; this shows that the initial movement had walking character, not panicked scattering.
- The tracks being close to each other, merging in places and separating in places, shows a collectively oriented group movement; that is, there is no complete chaos at first.
- The shoe situation is asymmetric: some people had felt boots, some only socks or nearly bare feet; this shows that the evacuation was sudden and with incomplete equipment.

- The tracks being visible 26 days later can be explained by loose snow flying away with the wind and compressed foot impressions remaining in a raised form; this weakens the 'if tracks exist there was no storm' argument.
- The tracks disappearing further below does not mean people disappeared at this point; it means the snow and terrain physics broke down the track record.
- The available footprint picture shows the initial evacuation moment as an emergency withdrawal decided within the group itself, more than a third-party compulsion.

The main thesis of this section is thus confirmed:

There was no complete chaos at first. The exit from the tent was sudden and with incomplete equipment; however, the initial descent still had the character of a movement with direction, in a group, and controlled.

8. The Cedar Line: Fire, Tree, First Deaths

This section examines the first death scene of the Dyatlov case. The moment of exit from the tent initiates the event; but the cedar line is where death first appears in visible and concrete form. When the fire remains beneath the cedar, the broken branches, the climbing marks on the trunk, the positions of the first two bodies, and the return axis further above are read together, what emerges here is no longer a 'moment of escape' but an effort to establish a survival order. This distinction is very important. Because the cedar shows that the group did not disintegrate into panicked individuals; on the contrary, after leaving the tent, they reconvened at a certain lower line and were able to make at least a few decisions.

The main thesis of this section is: the first death engine is the hypothermia line that began at the cedar line and was completed by the return attempt toward the top. The cedar itself is not merely a tree; it is the first temporary shelter, the first fire point, the first assembly center, and the first point of strategic divergence. Part of the group collapsed here, while another part most likely tried to return from here upward — to the tent, to the clothing, to find others.

To construct this section, three data lines must be read together:

- the positions of the first five bodies found on February 27 and March 5 (incident site protocols; Maslennikov testimony, March 10, 1959),
- field notes and later search reports about the fire and tree damage at the cedar,
- the autopsy findings of these first five victims.

When these three lines are combined, the cedar scene reads not as passive, not as coincidental, not as 'they were blown there and died' — but as 'they arrived there and tried to do something.'

8.1. Location and Function of the Cedar: The First Reorganization Point

According to the official closing decision, the cedar is approximately 1,500 meters below the tent; the first three of the first four bodies and the fire remains were found on this axis (Ivanov, Closing Decision, May 28, 1959). Maslennikov's March 10 statement also confirms this structure: when the tent was found, in the subsequent search the first two bodies under the cedar were found, then Dyatlov and Kolmogorova further up, and later Slobodin (Maslennikov testimony, March 10, 1959). The meaning of this layout is clear: after coming out of the tent, the group did not directly disappear; it descended to a certain lower line and stopped there.

Why is the cedar important? The first answer is physical. The tent is on an open slope; the cedar is at the forest boundary. After an open slope, the forest line partially breaks the wind, provides wood, changes snow retention, and strengthens the visual sense of direction. For someone leaving the tent, the most natural temporary target is the tree line below. For this reason, the presence of the cedar shows that the evacuation was not random but contained an orientation consistent with environmental logic.

The second answer is behavioral. The space beneath the cedar is not just 'the first tree reached'; it is also the center where the fire was lit, branches were broken, climbing was attempted, and subsequently the group diverged. This suggests that the following minimum reasoning was operating within the group:

- first, descend from the open slope,
- then assemble at the tree line,
- then do something for warmth and shelter.

For this reason, the cedar line is the first collective decision space after the disaster.

8.2. The Fire: Why Was It Lit, How Much Does It Mean?

The fire beneath the cedar is one of the strongest behavioral pieces of evidence in the case. Because fire does not form by accident; it is deliberately started. The closing decision emphasizes 'fire remains'; in Maslennikov's early radiograms 'charred logs' and fire traces under the cedar are explicitly mentioned (Maslennikov radiograms, February 27-28, 1959). This data shows that even after the initial evacuation, the group had not completely lost control.

Three possibilities about the function of the fire must be considered together:

1. Warmth

This is the most obvious function. The group descended from the open slope without shoes, with incomplete clothing. The first need is warmth. The fact that the first two bodies were among the most poorly dressed also supports this. The fire is the first hypothermia defense.

2. Visual Focus / Assembly Center

In conditions of night, wind, and snow, fire provides not only heat but also a reference point. After descending from the tent, the fire beneath the cedar most likely functioned as a meeting point to prevent the group from scattering. Especially the fact that some later tried to return upward suggests that the fire also functioned as 'the point to return to.'

3. Use of the Cedar for Branches and Wood

The cedar is not just a trunk; it is also a source of material for fire and perhaps a platform for climbing up to see the surroundings. For this reason, the fire and the broken branches on the tree must be read together; one may have served as fuel, the other as a means of finding direction/observation or reaching other branches.

The most important analytical point here is:

The fact that the fire was lit shows that the first death line was not entirely panic-based.

If the group had been only in blind flight after exiting the tent, the behavior of systematically lighting a fire and collecting wood would have been less expected. The fire proves that thinking capacity continued.

8.3. The Broken Branches on the Tree and the Climbing Issue

The breaks on the cedar trunk and lower branches are one of the most striking physical details of the event. The initial findings and search notes show that various branches of the cedar were broken, and that there was damage even at relatively high points. Later Shkryabach and other technical interpretations dwell on the possibility of climbing up given the broken branch pattern around the tree; but even setting aside these secondary interpretations, what the primary data says is clear enough: there is intensive human intervention on the cedar (incident site protocol, February 27, 1959; Maslennikov testimony, March 10, 1959).

Why might someone have climbed the tree? The three strongest explanations are:

A. To See the Tent or the Slope

For a group that has descended from the open slope to the cedar, seeing where the tent they left behind is could be vital. If the tent is visible, the return plan becomes more rational. This is one of the strongest explanations for the cedar climbing.

B. To Collect Drier Branches

If the fire was small and weak at first, the trunk may have been climbed to reach drier or more breakable branches above. This is also plausible.

C. Threat Control

The weaker but still possible explanation is observing the line below and movement above. Someone trying to understand why they came out of the tent may have climbed the tree to check visibility above.

These three explanations do not exclude each other. In fact the most realistic model is their combination: someone may have climbed both to collect branches and to see above.

What is important is:

The behavior of climbing the tree shows that there was active cognitive functioning on the cedar line.

These people did not simply collapse to the ground and freeze; they tried to use the environment.

8.4. The First Two Bodies: Krivonischenko and Doroshenko

The first two bodies found are beneath the cedar. Although these two names are mixed up in some early radiograms in the official file, the final structure is clear: Yuri Krivonischenko and Yuri Doroshenko were found dead on the fire line around the cedar (Ivanov, Closing Decision, May 28, 1959; Maslennikov testimony, March 10, 1959).

The common characteristics of these two bodies are:

- they are among the most poorly dressed in the group relative to the tent,
- they are at the point closest to the fire,
- they are at the exact center of active behavior on the cedar line,
- their autopsies place the cause of death primarily on the hypothermia line (autopsies, February 28 – March 9, 1959).

In the Krivonischenko autopsy, alongside nakedness and cold-compatible findings, there are surface burns/heat-related findings on the hands and legs, and local damage of the type that a person waiting by a fire might experience. Doroshenko similarly shows cold-compatible morphology in open areas and the hypothermia line. These two are victims not of the severe closed trauma line but of the clearly cold, nakedness, and exhaustion-by-the-fire line (autopsy reports, Krivonischenko and Doroshenko, 1959).

The important point here is that these two bodies appear to have struggled for survival on the cedar line for some time before collapsing, rather than collapsing immediately after exiting the tent. Elements supporting this:

- the presence of the fire,
- the broken branches on the tree,
- the centrality of the bodies around the cedar.

Therefore the first two deaths are the product not of an instantaneous mechanical disaster but of delayed hypothermia.

8.5. Why Did the First Two Bodies Collapse Here?

The strongest answer to this lies in the difference in clothing and function.

The presence of Krivonischenko and Doroshenko beneath the cedar makes them the 'fastest heat-losing and earliest collapsing' members of the group. These two either came out very poorly dressed at the first moment, or were not sufficiently protected before clothing was given to others. Both possibilities are plausible. The clothing transfer issue will be discussed more openly later in the ravine section; but the fact that those who collapsed first at the cedar were more poorly dressed shows that the thermal economy within the group was not equal.

Furthermore, the first two bodies remaining on the cedar line suggests that they either:

- were trying to maintain the fire,
- or could no longer find the physical strength to go on the return trip.

In other words, a functional or physical capacity division may have formed between those who stayed at the cedar and those who went up. A definitive statement cannot be made at this point; but the arrangement of the bodies and the fact that better-dressed individuals are later found on the upper line strongly suggests such a division.

8.6. Dyatlov: The First Link of the Return Line

Igor Dyatlov's body is found above the cedar, further up relative to the cedar and between the cedar and the tent. Maslennikov recounts finding Dyatlov a certain distance above the cedar, on a line facing the mountain; the closing decision also places him on the axis toward the tent (Maslennikov testimony, March 10, 1959; Ivanov, Closing Decision, May 28, 1959).

This positioning suggests that Dyatlov's orientation before death was not downward but upward. That is:

- he is moving from the cedar toward the tent,
- trying either to reach the tent,
- to retrieve the clothing left there,
- or to find other members.

The findings in his autopsy keep the cause of death largely on the hypothermia line; there is no distinct lethal internal trauma. Some superficial abrasions on the face and hands are consistent with freezing and stumbling progress. For this reason, Dyatlov, unlike the first two, is the first person to collapse during an active return attempt.

Dyatlov's name is important here not only because he was the leader, but because of his position. Because his body is the first strong carrier of the model in the group: 'go down, light a fire, then some tried to go up again.'

8.7. Kolmogorova: The Second and More Distinct Link of the Return Attempt

Zinaida Kolmogorova's body is found even above Dyatlov, on a line closer to the tent. The closing decision and field diagrams show her as one of the highest bodies on the cedar-tent line. This is very important. Because this positioning suggests that

Kolmogorova died not in random scattering but on a conscious return line (Ivanov, Closing Decision, May 28, 1959).

In Kolmogorova's autopsy as well, the cause of death is on the hypothermia axis; injuries to the face and hands are consistent with movement and falling on snow. No severe closed trauma is found. This reinforces that she, like Dyatlov, died not from a mechanical attack or explosion but from exhaustion and cold during the return attempt.

Kolmogorova's position is valuable on two counts:

- It shows that those who separated from the cedar and went upward really did climb.
- It suggests that this attempt did not belong to a single person within the group; it was an attempt of at least two people.

For this reason, Kolmogorova is of central importance in the map of the first death chain. Because her body tells us not only 'she died there' but also the answer to the question 'in which direction was she advancing while dying?'

8.8. Slobodin: The Third Link Found Late but Standing on the Same Line

Rustem Slobodin's body is found on March 5. Although the first four bodies emerged on February 27, Slobodin was found late because he remained under slightly more snow. However, his position is on the same line as Dyatlov and Kolmogorova: between the cedar and the tent, on the axis oriented toward the mountain. He is therefore also part of the return line (Maslennikov radiogram, March 5, 1959; Closing Decision, May 28, 1959).

Slobodin's importance lies not only in his position but in his autopsy. Because a small skull fracture and abrasions on the face and hands are recorded in his case. This detail has been misinterpreted for years. However, the official cause of death is still given as hypothermia; the fracture is not placed on the primary lethal trauma line. This simultaneously says two things:

- there are falls and collisions on the return line,
- but these are not the primary death mechanism as in the ravine quartet.

Slobodin is therefore like a 'transitional figure.' On one hand he is on the freezing line like the other first five; on the other hand he carries stumbling-progress and small trauma additions. This also shows that the return attempt took place both with difficulty and in a scattered manner.

8.9. General Behavioral Model of the Cedar Scene

The cedar is the center where Krivonischenko and Doroshenko collapsed, and where Dyatlov, Kolmogorova, and Slobodin most probably turned upward from. When this picture is read together, the following behavioral model emerges:

Phase 1: Mass evacuation from the tent

The group leaves the open slope and heads toward the forest line.

Phase 2: Regrouping beneath the cedar

A fire is lit, branches are broken, someone climbs the tree to see above or collect wood.

Phase 3: Functional divergence within the group

The two most poorly dressed or weakest members remain at the cedar and collapse there.

A subgroup that is better dressed or stronger tries to return upward.

Phase 4: The return line fails

Dyatlov, Kolmogorova, and Slobodin collapse along the way before reaching the tent or the clothing.

This model explains the cedar scene best in behavioral, spatial, and medical terms. Alternatives can of course be considered; but the distribution of these five bodies resembles not disconnected individual death points but different phases of a single broken plan.

8.10. Why Was the Return Attempt Made?

There is no single-sentence answer to this question; but the strongest possibilities are:

1. To retrieve clothing and shoes

This is the strongest motif. In the tent, the shoes, outer clothing, and most warm equipment were left behind. The fire beneath the cedar may be a short-term solution; but returning to the tent to retrieve them is rational for long-term survival.

2. To search for other members

If the group had temporarily scattered after descending, one purpose of going upward may have been to gather the others.

3. To correct direction

The situation beneath the cedar may have appeared temporary; a reconnaissance/observation return may have been made to find the tent or a safer area.

The common denominator of these three motivations is:

the return is not irrational heroism; it is survival strategy.

For this reason, the Dyatlov-Kolmogorova-Slobodin line should not be read as 'three bodies that got lost and piled up.' These were most probably people who went up to do something, but failed to accomplish it.

8.11. Why Is the First Death Engine Hypothermia?

The thesis of this section clarifies here. The common line in the first five is:

- descent from the open slope with incomplete equipment,
- a temporary survival struggle on the cedar line,
- then collapse from cold/exhaustion either remaining at the cedar or trying to return upward.

At the autopsy level, these five names do not have the lethal chest trauma or crushing head trauma of the ravine group type. Yes, there is a fracture in Slobodin, and abrasions and surface damage in the others; but these are not the primary cause of death. The primary cause of death remains on the hypothermia axis (autopsy reports, Dyatlov, Kolmogorova, Slobodin, Doroshenko, Krivonischenko, 1959).

This distinction is very important; because sometimes the entire case is narrated as if it had a single mechanism. However, the physics of death differs between the first five and the last four. The first five die, particularly on the cedar and return line, on the cold + incomplete equipment + exhaustion axis. This is separate from the severe closed traumas of the ravine quartet.

Therefore a clear verdict can be established here:

The first death engine is hypothermia on the cedar line; not trauma.

8.12. The True Meaning of the Cedar in the Case

The true meaning of the cedar scene can be summarized on three levels.

1. Psychological Level

The group did not completely disintegrate after leaving the tent. Lighting a fire, climbing the tree, and making decisions again show that mental functioning continued.

2. Strategic Level

The cedar is the temporary center. The first defense, the first assembly, the first orientation, and the first divergence all happen here.

3. Medical Level

The death line of the first five bodies is established here. The two most poorly dressed collapse at the cedar, and the three who then try to return collapse on the upper line. This structure makes the cedar the first true death engine of the case.

For this reason, the cedar in the Dyatlov file is not merely 'the place where the bodies were found'; it is the place where the survival plan first broke down.

8.13. Conclusion of the Section

The following conclusions emerge from the cedar line analysis:

- After the tent, the group did not directly disintegrate but reconvened around the cedar on the forest line (incident site protocol, February 27, 1959; Maslennikov testimony, March 10, 1959).

- The fire having been lit beneath the cedar shows that the behavior after the initial evacuation was still purposeful and functional.
- The broken branches and intervention marks on the tree point to an effort to use the environment, collect branches, and/or see above.
- Krivonischenko and Doroshenko collapsed on the cedar line on the hypothermia axis, not from severe closed trauma.
- Dyatlov, Kolmogorova, and Slobodin died on the upward return line — heading back toward the tent or the clothing.
- The small traumas in these three are consistent with stumbling progress and a difficult return; the primary cause of death is again on the hypothermia line.

Therefore the cedar scene best fits not the model of 'scattered deaths after mass panic,' but the model of temporary assembly, fire, followed by failed return.

The fundamental thesis of this section is thus confirmed:

The first death engine is a failed survival attempt tied to hypothermia that began at the cedar line and was completed by the return attempt.

9. The Ravine Line: Shelter, Clothing Economy, Second Phase

This section, in line with the structure determined by the user, centers on the ravine line — the second and most complex death scene of the case.

One of the greatest misreadings of the Dyatlov Pass case is treating the ravine as a single 'falling and dying point.' But when the incident site protocol, the May radiograms, and the distribution of objects found there are read together, the ravine line says something entirely different: this is not a random tumbling or a scene finished by a single blow; it is a second and more deliberate survival scene established after the cedar line. For this reason, the ravine should be thought of as the 'second act' of the case. The first act is the exit from the tent and the temporary defense on the cedar line; the second act opens in the ravine with a more sheltered, lower, more complex shelter logic (Ravine incident site protocol, May 6, 1959; May 1959 radiograms).

The main thesis of this section is clear: The ravine is not a death pit passively fallen into; it is a shelter area actively chosen, organized, and attempted to be used. The four bodies here — Dubinina, Zolotaryov, Kolevatov, and Thibeaux-Brignolle — cannot be read like the first group that collapsed on the cedar line. Because in this scene there is flooring, there is clothing transfer, there are cut fabric pieces, and there is an organized layout under snow and in water. None of these elements can be properly explained by the model of 'they were randomly blown there' (May 1959 radiograms; Ravine incident site protocol, May 6, 1959).

9.1. Discovery of the Ravine: The Second Incident Site Opened Late

The ravine scene is not found like the first five bodies at the end of February. This is very important. Because the first official and semi-official interpretations about the group were built for a long time on the tent, cedar, and return axis. However, with the May 5-6 excavations, a second scene opens that does not fit the first narrative. The May radiograms describe that on the morning of May 5, to the southwest of the cedar, near the cut spruce/fir area, first cut clothing pieces were found; then a trench was excavated approximately 2.5 meters deep over an area of 20 square meters. Later, flooring was found at the bottom of this excavation, and a body in the stream nearby. That is, the ravine is not a point that opens as 'here it is' at a single moment; it is a layered scene that reveals itself as excavation progresses (May 1959 radiograms).

The May 6 incident site protocol formalizes this second scene. The protocol states that four bodies were found in the stream ravine on the northwest slope of elevation 880, 50 meters from the 'known cedar.' The same text records that these bodies were extracted from 2-2.5 meters of snow, all of them were in water, and the bodies showed decomposition/water effects. This record alone proves: the ravine line is not only a snow burial but also a death and decomposition scene associated with water. This detail explains both the soft tissue losses and why the scene remained invisible in the first months (Ravine incident site protocol, May 6, 1959).

The date difference here is also important. While the closing decision highlights May 4 for the last four, the field protocol carries May 6; and the radiograms vividly provide the May 5 excavation and finding flow. This difference should be read not as a contradiction but as the natural time gap between first contact, excavation, and official record. The ravine was opened by excavation; therefore the 'discovery date' cannot be reduced to a single minute (May 1959 radiograms; Closing Decision, May 28, 1959; Ravine incident site protocol, May 6, 1959).

Kolevatov being the shuttle carrier is not an assumption but the result of negative elimination. Because: A) The whole group could not have carried all clothing together at the first moment; it is contrary to the hurried nature of the initial exit and incomplete equipment. B) Those in the ravine group could not go back themselves to retrieve clothing; the traumas and freezing levels in their autopsies make this effort impossible. The only person remaining who is mobile, uninjured, and has wet matches on them is Kolevatov.

9.2. Ravine Geometry: Why Here?

The behavioral meaning of the ravine scene cannot be established without understanding its geometry. The ravine and den pages of DyatlovPass clearly explain why measurements and comparisons made years later are so hotly debated: because the real question here is not so much exactly where the bodies were found as why such a place might have been chosen. Modern researchers therefore constantly circle the same questions: was it easy to reach, how were the branches transported, was the shelter built here, were the bodies injured here, could they have been carried from elsewhere? (Ravine; The Den).

Although some of these questions belong to modern debates, the incident site material itself already gives a strong answer. The ravine, relative to the cedar line, is:

- lower,
- more sheltered from wind,
- closer to tree and branch material,
- has higher snow accumulation,
- reduces visibility but can also reduce heat loss to some extent.

This is a logical second-phase option for a group trying to survive. After the open slope and the semi-open cedar line at the forest boundary, seeking a more hollowed and more enclosed micro-area is logical. The ravine offers such a micro-area. For this reason, my first basic conclusion is: The ravine was most probably chosen; it is not the first gap fallen into. However, 'choice' here does not have to mean an active navigation decision. The more consistent model is: the ravine was positioned on or very close to the group's natural descent vector; in the dark and deep snow this depression was encountered as an obstacle and entered. Once inside, since going back out also carried an energy cost, the group preferred to stay and adaptation began. This model explains the flooring construction: the ravine was not chosen, it was accepted. The navigation mechanism should be read as encounter and adaptation in low visibility rather than deliberate searching.

9.3. Flooring: The Heaviest Evidence of the Second Scene

The strongest physical evidence showing that the ravine line was an active shelter scene is the flooring. The May 6 incident site protocol records that a 'den' was found six meters above the bodies at a depth of 3-2.5 meters, consisting of a floor made of 14 fir/spruce tops and 1 birch top. The same text states that various pieces of clothing were found on top of this flooring. The significance of this record is great: the flooring is not a natural pile of branches that fell on someone; it is a deliberately cut and laid platform (Ravine incident site protocol, May 6, 1959).

The May radiograms clarify the flooring further. It is written that at the bottom of the trench excavation there was flooring of approximately three square meters, with clothing turned inside-out and crumpled on top. Among these clothing items:

- a sleeveless grey woolen Chinese-made sweater,
- brown trousers lined with fleece,
- a brown warm pullover with lilac thread,
- the leg of a trouser found earlier,
- a military-type puttee/foot wrap approximately one meter long.

The person writing the radiogram also specifically adds that they cannot explain the appearance of this military foot wrap (May 1959 radiograms).

The forensic meaning of the flooring is clear. Such a platform means:

- Those who descended to the ravine stopped there and used the environment.

- The work of collecting and cutting wood/branches was done.
- The aim is not to lie directly on the bare ground; to reduce contact with snow and water.
- This is not 'being thrown around at the last moment before death'; it is short-term camp/shelter logic.

For this reason, flooring is the most important material evidence of this section. If there were no flooring, the model of 'they accidentally fell and stayed there' would be much more easily defensible. Because flooring exists, the ravine scene must be read as an actively constructed second survival scene.

9.4. Clothing Economy: Why Were Garments Cut, Why Were They Mixed?

The ravine scene is also a clothing economy scene. By this is meant the redistribution of the limited heat-protection resources within the group. The protocol and radiograms show that a significant portion of the clothing found around the flooring and on the bodies was:

- taken from other bodies,
- left half-used,
- cut,
- turned inside-out,
- transported in pieces.

(Ravine incident site protocol, May 6, 1959; May 1959 radiograms).

This economic logic needs to be illustrated with a few examples.

First, the incident site protocol states that Dubinina's right foot was wrapped with half of a beige-colored sweater. The protocol also records that the other half of the same beige sweater was found 15 meters from the flooring, under a tree. Similarly, cut trouser legs are also found at different points. This shows that the clothing was deliberately torn and used, not naturally worn out (Ravine incident site protocol, May 6, 1959).

Second, in earlier item/ownership notes, some clothing belonging to Lyuda Dubinina is found on Tibo, and other clothing is found outside its expected owners. For example, one note says 'Lyuda's green hat is on Tibo.' These details show that intra-group clothing circulation was intense in the final phase. In other words, in the final hours the logic of personal property dissolved, replaced by the logic of thermal utility. Someone who was cold and could survive may have taken clothing from someone who was dead or in a weaker state.

Third, some of the clothing found on the flooring is described as 'inside out,' meaning turned inside-out. This also suggests they may have been hurriedly removed and put on, or stripped from other bodies. Finding clothing in this state in orderly camp life is not expected. But in a life-or-death phase, especially in the dark and cold, not how a garment is worn but which part provides how much heat protection becomes important.

For this reason, the clothing confusion in the ravine scene does not say 'item management was poor'; it says something deeper:

In the final phase, the group dismantled, cut, shared, and reused clothing to fight the cold. This is conscious survival behavior.

9.5. The Meaning of 'Cut Clothing': Not Violence, But Function

The cutting of clothing has been unnecessarily dramatized for years. Yet the primary material shows this as functional behavior rather than criminal violence. Dubinina's half-sweater wrapping her foot, the trouser legs found at different points, the dismantled and inside-out clothing on the flooring all say the same thing: the textile material at hand was repurposed.

Its possible aims are:

- to wrap the foot,
- to add a second layer directly to the skin,
- to produce pieces for head/hands,
- to add extra padding between the ground and the body,
- to reduce contact with water and snow.

For this reason, the cut clothing in the ravine does not on its own carry the narrative of external attack or torture. On the contrary, it suggests that people trying to survive converted the textile at hand into 'functional raw material.' This type of behavior falls into the same category as lighting a fire at the cedar line: purposeful, pragmatic, and functioning to the last moment.

9.6. Layout of the Bodies: Not Random Piling, But a Related Distribution

The May 6 protocol clearly describes the layout of the bodies. Three male bodies lie along the stream with their heads facing north; Lyudmila Dubinina, in contrast to the others, is in the opposite direction, with her head against the current. All are in water. The meaning of these details is two-directional.

First, the layout is not a completely piled-up single mass. That is, the model of 'they were all blown to the same point by a single blow at the same time' weakens here. The bodies are in related but separate positions. This suggests either that even at the moment of collapse they were in different positions, or that subsequent water/snow movement had a partial repositioning effect (Ravine incident site protocol, May 6, 1959).

Second, the record 'all are in water' is extremely important. Because this provides the context for the findings later so badly misinterpreted — soft tissue losses in the ravine group, decomposition, eye and tongue absences, deterioration in hand/foot skin. The ravine is not a dry snow grave; it is a micro-environment associated with sub-snow water. For this reason, here the post-mortem change, as much as the death itself, is also different.

9.7. Water and Deep Snow Conditions: Why So Decisive?

In the May radiograms it is explicitly written that the ravine excavation was done in 'very hard snow,' that the work progressively became an in-stream excavation, meaning 'work has to be done in the water.' Ortyukov also requests strong sapper shovels and pickaxes for the excavation and says he thinks the dead are nearby. These two details clarify two fundamental characteristics of the ravine environment:

- the upper layer is very compact and hard,
- at the lower level there is water and current.

(May 1959 radiograms).

What does this mean?

First, the ravine may have acted like an invisible trap throughout the winter. If there is hard snow above and a hollow/flowing stream line below, this area both looks like shelter and is structurally risky. Second, water both delays the finding of bodies and accelerates post-mortem changes. Third, for those working and trying to shelter here, even if the ground appeared safe, a snow bridge/hollow collapse or local fall-entrapment could occur at some point.

For this reason, the water and snow combination must be placed at the center of the ravine scene. If the ground were dry, shallow, and loose snow, we would be discussing a different death model. But what we are discussing here is a micro-terrain: covered with snow, carrying water, deep, hard, and at the same time appearing as shelter.

9.8. Why Are 'Den' and 'Ravine' Not the Same Thing?

In Dyatlov literature, 'ravine' and 'den' are frequently confused. The incident site protocol, however, separates the two:

- the bodies are in the stream/on the water line,
- the flooring is found six meters above, in a separate 'den.'

(Ravine incident site protocol, May 6, 1959).

The analytical importance of this distinction is great. Because if the flooring and bodies are not at exactly the same point, the following possibilities open:

- First a shelter was built, then another event occurred within the ravine.
- The flooring was the main sleeping/collapsing platform; the bodies subsequently passed into the stream through collapse or sliding.
- The micro-ground collapsed while some were on and some working around the flooring.

For this reason, saying 'the ravine group was sitting there' would be crude. More accurately: the ravine group was trying to build a small living space within the stream-ravine-den triangle. The bodies being found in the stream shows this living space failed; the flooring being found separately proves this was not a matter of random falling.

9.9. Why Did the Ravine Group Not Stay at the Cedar?

There is no direct answer to this question, but the scene logic produces strong inference. The cedar line:

- is partially sheltered from wind but not completely,
- is good for building a fire,
- but is insufficient for retaining long-term heat,
- continues to leave one exposed on snow.

The ravine, however:

- is lower,
- is more enclosed,
- is surrounded by snow,
- ground insulation can be established,
- but carries water and collapse risk.

That is, the cedar is short-term emergency defense; the ravine is a second, more planned but riskier choice. For this reason, the behavioral model I read is:

- Those who descended from the tent first assemble at the cedar.
- Here, fire and initial order are established.
- A subgroup, understanding that the cedar will no longer be sufficient, searches for a more enclosed micro-shelter.
- The ravine/den line is the product of this second search.

This model best explains why the first two bodies stayed at the cedar while the last four went to the ravine:

The group did not pursue the same strategy at the same time; it functionally divided in the second phase.

9.10. Why Is the Ravine Line an 'Active Second Survival Scene'?

The main thesis of this section now needs to be directly established. The elements showing that the ravine line is an active second survival scene are:

- There is flooring. It consists of cut and laid branches. It is not a random natural product (Ravine incident site protocol, May 6, 1959).
- Clothing has been repurposed. There are cut sweaters, trouser legs, foot wraps, inside-out garments. This means active use and redistribution (May 1959 radiograms; Ravine incident site protocol, May 6, 1959).
- The bodies are in a risky micro-environment with a combination of water and snow. This suggests a complex area entered while searching for shelter rather than 'random scattering' (Ravine incident site protocol, May 6, 1959).

- The bodies are distant from the cedar but geometrically connected to it. That is, the ravine is a continuation of the group's movement; it is not a scene from a separate world (May 1959 radiograms; Ravine).
- Even the search team read this as a second scene. In the May radiograms the flooring, cut clothing, new trench, and in-stream body narrative is separated from the first scene of the event. This is not a modern researcher's imagination; it is contemporary search logic.

For this reason, the most accurate description of the ravine line is:

The ravine is a second survival scene where, after the cedar, the group tried to build a more advanced and more deliberate defense, but was ultimately broken by both cold and local mechanical disaster.

9.11. Why Cannot This Scene Be Explained by the Random Fall-and-Die Model?

The random fall model is insufficient for several reasons.

First, it cannot explain the flooring. If people had simply tumbled and fallen here, there would not be an orderly platform of 14 fir/spruce tops and 1 birch top.

Second, it cannot explain the clothing economy. Cut, halved, foot-wrap-converted garments show that there was active cold-fighting before the accidental death in the stream.

Third, it cannot explain the separate layout of the bodies and the flooring. If the flooring is in one place and the bodies a few meters away in the water, there is a process in between.

Fourth, the excavation logic and search interpretations in the radiograms also show gradual scene reading in the style of 'other dead are nearby' rather than a random fall. The search team did not read this as a single-piece 'cliff accident' (May 1959 radiograms).

For this reason, the random fall model can crudely explain only the final moment of the ravine line; but it cannot explain the entire scene. Yet what we are interested in is not the final moment but what was done there until the final moment.

9.12. Conclusion of the Section

The following conclusions emerge from the ravine line analysis:

- The ravine where the last four bodies were found is the second incident site, opened by excavation in the late phase of the search process; it is different from the cedar-tent scene formed by the first five bodies (May 1959 radiograms; Ravine incident site protocol, May 6, 1959).
- The flooring found around the ravine is a deliberately cut and laid branch platform; this is the strongest physical evidence of active shelter-building behavior (Ravine incident site protocol, May 6, 1959).

- The clothing on and around the flooring is inside-out, cut, dismantled, and reused; this shows there was clothing economy and redistribution of heat sources within the group (May 1959 radiograms; Ravine incident site protocol, May 6, 1959).
- The half-sweater on Dubinina's foot, the trouser legs and other pieces found at different points, show that clothing was functionally dismantled to fight the cold (Ravine incident site protocol, May 6, 1959).
- The bodies being found in water and the excavation being done in the stream bed show that the ravine line was a risky micro-environment with a deep snow + hard upper layer + flowing water combination (May 1959 radiograms; Ravine incident site protocol, May 6, 1959).
- For this reason, the ravine is not a 'random fall-and-die' scene; it is a second survival scene developed after the cedar line, more enclosed but riskier, that ultimately failed.

The main thesis of this section is thus confirmed:

The ravine is not a death pit the group passively fell into; it is a second shelter scene they actively tried to build, but which ultimately failed.

9.13. Body Geometry According to the May 6 Protocol and the Local Collapse Model

The May 6, 1959 incident site protocol is the most critical primary source for the physical reconstruction of the ravine scene. According to the protocol: three male bodies lie along the stream with their heads facing north. Lyudmila Dubinina, unlike the others, is in the opposite direction, with her head against the current. All bodies were found under 2-2.5 meters of snow, directly in the water flow. The ground preparation identified as flooring is located approximately 6 meters above. Two bodies were described as 'wrapped/embracing,' most probably Kolevatov and Zolotaryov (May 6, 1959 ravine incident site protocol, pp. 341-343).

Although this geometry might at first glance suggest that the bodies and the flooring are not on the same plane, the 6-meter separation refers not to a vertical height but to a horizontal/slope distance in the direction of the current. The most consistent explanation is: the group was in a passive sheltering (embracing) position on/beside the flooring in the stream bed; this volume collapsed locally directly on top of them. The thrust force created after the collapse, or the water flow in spring (taphonomy), transported the heavier, water-submerged bodies 6 meters downstream in the current direction while the platform remained in place. The fact that the bodies were already positioned at ground level confirms that the force producing the trauma was not a long-distance fall but short-distance local compression.

9.14. Alternative Clothing Transfer Models

The Kolevatov shuttle model is a strong but directly undocumented inference in this file. The model works very well; however, it rests entirely on a single person. Epistemic honesty requires testing this.

Model A, Kolevatov individual shuttle: The main model of this file. Kolevatov made at least one round trip between the cedar and the ravine, collected clothing from the dead or dying Yuris, and transported it to the ravine. It simultaneously explains three separate physical details: clothing transfer, Kolevatov's lack of trauma, and the wet matches. Confidence: 55-65%.

Model B, collective transfer: The shuttle was made not by one person but by more than one. Before the ravine group separated from the cedar, the clothing was partially taken; during the late split, several people did this together. Reduces dependency on a single person. Weak point: requires coordination under hypothermic pressure; does not explain Kolevatov's lack of trauma. Confidence: 35-45%.

Model C, early transfer or recording error: The clothing changed hands before the cedar phase or at a different moment; or was matched to the wrong person due to attribution error. Considering the branching structure of the clothing record in the ravine protocol, this definitely cannot be excluded; it is the model least supported by the available data. Confidence: 15-25%.

For one of these three models to definitively exclude the others, a direct document is needed regarding Kolevatov's body position in the May 6 protocol. This document is not available. Additionally, the physiological validity window of Model A also retains its uncertainty. For Kolevatov to be able to perform the shuttle movement, he would need to be within a sufficient time window before losing motor coordination under -20°C conditions. The onset of ataxia and fine motor loss under hypothermia shows significant variance from person to person; the variables determining this window encompass how much cold Kolevatov had been exposed to until that point, his initial clothing level, and physical condition. These parameters are unknown. While Model A stands out as an epistemic necessity, the time frame in which the shuttle took place is determined by inference, not direct evidence.

While Model A remains the strongest candidate, Models B and C should be honestly documented as alternatives remaining on the table.

10. Autopsies and Histology: The True Death Mechanisms

The only serious way to understand the death mechanisms in the Dyatlov Pass case is to combine the incident scene with autopsy and histology. Because the tent, the footprints, the cedar, and the ravine show us not what happened, but usually only what kind of process unfolded; yet the biological and traumatic nature of death is only separated through autopsies. The fundamental proposition of this section is: nine deaths cannot be explained by a single mechanism. The autopsies clearly produce two separate death families: first, the hypothermia-dominant death line; second, the severe

closed trauma line. In the official case file index, the first five bodies entered autopsy at the beginning of March, and the ravine quartet on May 9; histological analyses on May 29 reinforce that some fractures and hemorrhages of this second line were intra-vital.

A methodological limit must be placed at the very outset. Autopsies are strong sources; but they are not flawless. Even though the first five bodies were found relatively earlier, the effects of cold, transport, and morgue conditions are factors. The last four bodies were found late, remained in snow and water, and showed significant decomposition and soft tissue loss; therefore it is dangerous to make sharp judgments particularly without reading the May autopsies and histology together. Furthermore, modern assessments indicate that some of the May autopsies compiled for the last four may have problematic aspects in terms of form and signature standards; this does not discard these reports, but makes careful reading mandatory.

In this section each victim will be examined separately. But first the main framework must be fixed:

- Hypothermia line: Dyatlov, Kolmogorova, Slobodin, Doroshenko, Krivonischenko; Kolevatov is also largely closer to this line.
- Severe closed trauma line: Dubinina, Zolotaryov, Thibeaux-Brignolle.

This distinction is not random; it is based on the causes of death in the official autopsies and histological hemorrhage findings. Certain contemporary and later forensic interpretations also emphasize the absence of distinct lethal trauma in the first group and high-energy trauma in the second.

Note: How these asymmetric and high-energy fractures do not conform to a classic beating or a large avalanche will be explained in detail with the 'Progressive Fracture and Anvil Effect' mechanical reconstruction in Section 15. Here we are only fixing the medical finding.

10.1. Igor Dyatlov

Igor Dyatlov's autopsy well represents the typical hypothermia line within the first five. Dyatlov's body was found on the return axis between the cedar and the tent; the autopsy shows that he had surface abrasions and general cold-compatible findings, but no lethal internal trauma or crushing head/chest injury. The relevant case file page on DyatlovPass summarizes that the cause of death in Dyatlov's autopsy was found consistent with low-temperature effects, and that classic hypothermia supporters such as internal organ congestion and meningeal swelling were noted. This shows he is in the group of 'injured but main mechanism not trauma.'

The meaning of Dyatlov's surface injuries must be read carefully. Scratches, knee/hand/face area abrasions are consistent with crawling in snow, stumbling progress, moving on a windy, hard-surfaced slope. Reading these as 'violent assault' is loading more meaning than the autopsy carries. Dyatlov's physical profile is consistent with someone trying to return upward from the cedar and collapsing along the way from a combination of cold, exhaustion, and minor falls. In summary: the cause of death in Dyatlov is not trauma, but hypothermia advancing on the failed return line.

10.2. Zinaida Kolmogorova

Kolmogorova's autopsy gives a profile close to Dyatlov's, but her physical position places her even further up the return line, closer to the tent. The official incident site and later general summaries show that Kolmogorova was found above even Dyatlov, on a line closer to the tent. The autopsy page again keeps the cause of death on the low-temperature effect line; there is no serious closed chest trauma or lethal cranial damage. However, there are surface abrasions and external effects; these are more compatible with explanations linked to advancing and falling on hard ground.

Kolmogorova is sometimes incorrectly presented in the file as an 'assaulted female body.' This is not correct. Her autopsy supports the classic hypothermia profile within the first five. Speculations about livor mortis and post-mortem discoloration distribution suggesting 'the body was moved' are also balanced in contemporary FAQ/controversy summaries with alternative morgue and transport explanations; these are not by themselves proof of criminal movement. Kolmogorova's main profile is: a body that collapsed during the return attempt, bearing trauma additions but with hypothermia as the lethal mechanism.

10.3. Rustem Slobodin

Slobodin is the most misinterpreted body among the first five; because his autopsy contains a skull fracture. The case file page explicitly states that Slobodin's cause of death was again low temperature/freezing, grounding this in meningeal swelling, internal organ congestion, Vishnevsky spots in the stomach mucosa, and advanced freezing findings. That is, there is small/medium-scale cranial damage, but the forensic expert does not count it as the primary cause of death.

This is very important. Because Slobodin represents the category of 'there is both trauma and trauma is not the primary death mechanism.' Such injuries can be explained by intense cold, darkness, climbing a slope while stumbling, and trying to maintain direction. Later some forensic commentators wanted to read this fracture as an indicator of more serious violence; but the available autopsy does not permit this. Slobodin's most accurate place is within the hypothermia line, as a body carrying additional fall-collision traumas.

The concept of 'paradox injury' also comes into play here. The paradox is: there may be a trauma on the body that appears dramatic, but this trauma may not be the primary cause of death. Slobodin represents exactly this situation. For this reason, it is essential to maintain the difference between the language of the file and the language of popular narratives.

10.4. Yuri Doroshenko

Doroshenko's autopsy is the key to understanding the death logic of the first two cedar bodies. The autopsy page describes not serious chest or head crushing on him, but mild-to-moderate external injuries, general cold-compatible findings, and some surface heat/burn marks consistent with the fire on the cedar line. The burn/heat effects around

the lips, ears, and hair areas are consistent with very close contact with fire or the effect of local high heat on clothing/skin. Yet the official cause of death remains on the hypothermia line.

Another frequently misinterpreted detail in Doroshenko is the grey foamy fluid and blood traces around the mouth. This finding alone is not evidence of toxic gas or extraordinary toxic effect; it must be read together with severe cold, terminal lung/upper respiratory findings, post-mortem fluidity, and soft tissue deterioration. The file does not link this to a 'military gas cloud.' For this reason, Doroshenko's profile is: a body on the cedar line, near the fire, the earliest to collapse, carrying hypothermia as the primary death mechanism.

10.5. Yuri Krivonischenko

Krivonischenko is the twin body of the cedar scene together with Doroshenko. Even their identities were confused for a while in the first field readings; but the final structure is clear. Krivonischenko's autopsy profile is consistent with extreme cold exposure, incomplete clothing, and intense physical activity around the cedar. Later criminalist summaries also emphasize that no significant lethal trauma is found in him and that death remains on the hypothermia line.

The important point for Krivonischenko is the separation of his death profile from the later radiation discussions. His biographical background and connection to closed industrial environments will be addressed separately in Section 11; but at the autopsy level, Krivonischenko's death mechanism is not radiation but cold and exhaustion, in the same way as the other first bodies on the cedar line. This distinction must be preserved; otherwise the radiation anomaly becomes conflated with the cause of death.

10.6. Aleksander Kolevatov

Although Kolevatov is within the ravine quartet, his death profile does not carry as much 'high-energy trauma' as the other three ravine bodies. In his May 9 autopsy there is significant soft tissue loss in the face and head, distinct deterioration and decomposition effects in the orbital areas and around the ears; but the cause of death remains on the low-temperature axis. The histological analysis for Kolevatov also yields the result 'no hemorrhage detected in the sent skin, bone, and organ fragments.' This is very valuable; because it separates Kolevatov from the three severe trauma bodies in the ravine group.

Kolevatov's function in the case is analytically important. He descended to the ravine and participated in the second shelter scene; but he died without lethal chest/head trauma. This suggests that the mechanical event in the ravine did not kill everyone at the same time with a single blow. The more probable model is: a mechanical event occurred in the ravine, but the severity or exposure angle of this event was not the same for all bodies. Kolevatov falls more on the hypothermia/exhaustion side of the ravine phase rather than severe trauma. This proves that the second death scene was heterogeneous.

10.7. Semyon Zolotaryov

Zolotaryov is the first major example of the high-energy trauma line in the ravine group. In the May 9 autopsy, multiple rib fractures from 2 to 6 on the right side and associated internal bleeding are described; the cause of death is placed on the severe chest trauma line. The case file and subsequent expert assessments also emphasize that the fractures in Zolotaryov were unilateral but very severe, and appear to have been produced by high force in the internal structure without accompanying wide crushing/tearing on the surface.

Histology further strengthens this for Zolotaryov. In the May 29 analysis, hemorrhages are seen in the soft tissue around the ribs and in the heart muscle; this supports that the trauma was intra-vital, not a post-mortem decomposition illusion. The absence of cellular reaction suggests that the time between trauma and death was short. This weakens attempts to explain Zolotaryov's death through 'post-mortem body deterioration.' The forensic verdict for Zolotaryov is clear: high-force, intra-vital, severe closed chest trauma.

The important point here is that this trauma does not fully conform to an ordinary assault model such as 'beaten by someone.' Soft tissue bruising and the classic external assault pattern are weak; which is why it is not surprising that forensic expertise draws analogies to car crashes or shock waves. These are not the definitive cause of the event; they are merely analogies describing the magnitude of the force.

10.8. Lyudmila Dubinina

Dubinina is one of the most dramatic bodies in the case; which is also why she is the most misinterpreted. Her autopsy gives bilateral multiple rib fractures and massive internal hemorrhage as the cause of death. This is directly on the severe closed chest trauma line. The report also includes the absence of the tongue, loss of eyes, and deficiencies in facial soft tissue; but here the forensic sequence must be correctly established: the cause of death is chest trauma; tongue and eye loss are not the primary death mechanism. Dubinina having remained in the ravine under water and decomposition effects explains the context of these soft tissue losses.

Histology is very valuable for Dubinina. In the May 29 analysis, hemorrhage at the rib fracture site and small hemorrhages within the myocardium are detected; this confirms that the severe trauma was intra-vital. That is, the defense of 'broken after death' is weak here. At the same time, the absence of hemorrhage in the hyoid bone weakens some popular speculations such as strangulation. Dubinina's most accurate forensic profile is: a body that received high-force closed chest trauma during life, then acquired a terrifying appearance through water/decomposition effects.

Dubinina's case is the reverse of 'paradox injury': here there truly is lethal trauma; but public memory recalls it not through the ribs and internal hemorrhage but through the absence of the tongue. Yet medically, what is central is multiple bilateral rib fractures and intrathoracic hemorrhage.

10.9. Nikolai Thibeaux-Brignolle

Thibeaux-Brignolle is the representative of severe head trauma within the ravine quartet. The May 9 autopsy describes widespread/comminuted depressed skull fractures in him and places the cause of death on the craniocercbral trauma line. In the later statement by forensic expert Vozrozhdenniy, it is also said that this trauma would be difficult to explain by 'a simple fall from one's own height' and would require force comparable to a high-speed vehicle collision; again this is a force analogy, not a cause.

Histology is also decisive for Thibeaux. In the May 29 analysis, hemorrhage is detected in the skin; this supports that the trauma was intra-vital. However, Thibeaux does not have the dominant large chest trauma of the other ravine cases, but primarily severe head trauma. This also suggests that the mechanical event in the ravine scene did not strike every body at the same contact point. Thibeaux may have received large energy to the head region in a micro-collapse/fall/entrapment model. For this reason, Thibeaux's profile is: high-force, pre-mortem, severe closed head trauma.

10.10. The Hypothermia Line and the Severe Closed Trauma Line: Two Death Families

When the nine bodies are considered together, the autopsies necessarily lead us to two death families.

The first family is hypothermia-dominant deaths: Dyatlov, Kolmogorova, Slobodin, Doroshenko, Krivonischenko, and largely Kolevatov. In this group:

- there is no lethal chest or crushing head trauma, or it is not the primary cause,
- surface abrasions, minor fall injuries, and local heat/burn marks may be present,
- but the death logic is on the cold, exhaustion, and failed movement axis.

The second family is severe closed trauma deaths: Dubinina, Zolotaryov, Thibeaux-Brignolle. In this group:

- lethal chest or skull fractures are present,
- histology confirms hemorrhage,
- the traumas require high energy,
- but widespread external soft tissue fragmentation is not as prominent as expected.

This distinction is the most important medical conclusion of the file. Because it makes impossible a single narrative of 'everyone froze' or 'everyone was killed violently.'

10.11. What Are Paradox Injuries and How Do They Appear Here?

'Paradox injury' here refers to the tension between damage that appears dramatic from the outside but is not the primary cause of death, and closed trauma that is less visible than expected from the outside but is lethal.

In the first five, the paradox appears as follows:

- Slobodin has a skull fracture but the cause of death is hypothermia.
- Doroshenko and Krivonischenko have burns and external damage but the cause of death is again hypothermia.
- Dyatlov and Kolmogorova have face/hand abrasions but these are not fatal.

In the ravine trio, there is the reverse paradox:

- massive external crushing may not be visible,
- but inside there is lethal fracture and hemorrhage.

This is particularly distinct in Zolotaryov and Dubinina. This is precisely why these injuries have been described for years as 'impossible'; yet they are not impossible, only different from ordinary punch/assault violence.

This concept must be correctly established; because a significant part of the Dyatlov literature goes wrong precisely here. People either over-magnify the dramatically appearing minor injuries in the first group, or read the lethal internal fractures in the ravine group as 'there were no external marks, therefore it is inexplicable.' Yet the logic of both groups is different.

10.12. The Strength and Limit of the Histology Reports

Histology reports are very valuable for the case; because they approach the question 'were these fractures intra-vital?' particularly in the ravine group. Ganz's May 29 analyses show:

- no significant hemorrhage is detected in Kolevatov,
- in Zolotaryov, hemorrhage is present in the skin, heart muscle, and around the fracture,
- in Dubinina, hemorrhage is present at the rib fracture site and in the myocardium,
- in Thibeaux, hemorrhage is seen at skin level.

This reinforces three things:

- At least the majority of the severe fractures in the ravine group are intra-vital.
- Kolevatov's death profile is separate from the other three ravine bodies.
- Pre-mortem trauma and post-mortem decomposition are definitely not the same thing.

Despite this, histology also has limits. The expression 'no cellular reaction' is seen in some areas; this suggests that the survival time after trauma was short but does not give a minute-by-minute account. Furthermore, tissue samples are limited, decomposition is intensive, and the sent fragments do not represent the entire body. That is, histology strengthens the death model; but does not by itself resolve the full mechanical choreography of the scene.

10.13. Conclusion: What Do Autopsy and Histology Tell Us Definitively?

Autopsy and histology together state the following points with high confidence:

- The nine bodies did not die in the same way.
- The first five are primarily on the hypothermia line.
- In three of the ravine quartet there is high-energy, pre-mortem, severe closed trauma.
- Although Kolevatov is within the ravine, his trauma profile is not as severe as these three.
- Tongue, eye, and facial tissue losses are not by themselves evidence of torture; they must be read within the ravine-water-decomposition context.
- The minor traumas in the first group, while appearing dramatic, are not the primary cause of death.
- The lethal traumas in the ravine group, while less conspicuous from the outside, are real.

This is the medical backbone of the file. From this point forward, whatever theory is constructed, it must simultaneously explain:

- why one group died from cold and return failure,
- why the other smaller group received high-energy closed trauma.

The fact that the three severe closed traumas in the ravine have geometrically different patterns from each other (bilateral, unilateral, and focal) points not to a uniform large external blow but to position-dependent focal load transfer — a micro-volume collapse and 'anvil effect' mechanism that will be detailed in Section 15.

10.14. Conclusion of the Section

The final classification emerging from this section is as follows:

Hypothermia line:

Dyatlov, Kolmogorova, Slobodin, Doroshenko, Krivonischenko; largely Kolevatov.

In this group the death mechanism is consistent with cold exposure, incomplete equipment, the cedar line, and failed return.

Severe closed trauma line:

Dubinina, Zolotaryov, Thibeaux-Brignolle.

In this group the death mechanism is consistent with intra-vital high-force chest or head trauma; histology supports that these fractures and hemorrhages are not post-mortem false images.

For this reason, the fundamental verdict of this section is:

The Dyatlov case is not a single-mechanism death file. Autopsies and histology clearly establish two different death families: the hypothermia line and the severe closed trauma line.

10.15. Soft Tissue Loss Comparison and Position Correlation

When the soft tissue loss of the four bodies in the ravine group is comparatively examined, a distinct distribution emerges. The loss is highest in Dubinina: eyebrows, orbital sockets, nose bridge, upper lip, eyes, and tongue are absent. A similar but more limited loss is seen in Zolotaryov. Kolevatov has a defect in the right cheek and damage in the orbital region. Thibeaux-Brignolle has minimal loss; the tongue is present and facial tissue is largely preserved. This ordering is not quantitative; it is based on comparative assessment of autopsy findings (Vozrozhdenniy autopsy reports No. 1-4, May 9, 1959).

Read together with the May 6 protocol, this distribution becomes meaningful. The protocol explicitly states that Dubinina's head was facing against the current, while the other three bodies lay in the direction of the current. That is, Dubinina is the only person whose face was turned directly toward the flowing water for three months. In this position, facial tissues are most exposed to mechanical erosion, aquatic organisms, and decomposition. The preservation of Thibeaux's facial tissue suggests he lay in a different position, probably face-up or away from the current.

The tongue loss is most probably the result of a combination of position, water, post-mortem decomposition, and scavenging. Vozrozhdenniy recorded this as 'post-mortem change.' Confidence: 80%. Source: Autopsy reports No. 1-4, May 9, 1959; May 6, 1959 ravine incident site protocol. The mechanism of tongue loss can be more specifically defined within this framework. The tongue is a soft tissue remaining in the oral cavity and requiring external access. The head lying against the current creates a position where small fish and insect larvae continuously contact the oral cavity. In the forensic taphonomy literature it is documented that this position leads to priority loss in tongue and lip tissue. The tissue loss specific to this position in Dubinina does not support hypotheses of torture or surgical intervention; on the contrary, it is directly explicable through the position and the biological decomposition process.

The fact that the severe closed traumas detected in the ravine are geometrically different from one another (bilateral, unilateral, and focal) points to position-dependent local load transfer rather than a homogeneous external impact model. This observation gains meaning when evaluated together with the micro-volume collapse and 'anvil effect' mechanism that will be detailed in Section 15.

11. The Radiation Anomaly

The most contaminated, most abused, and at the same time most easily misread layer of the Dyatlov Pass case is the radiation anomaly issue. The reason is clear: this heading is both grounded in a real laboratory finding and does not fully integrate with the rest of the file. That is, here there is neither pure fiction nor a clean explanation. On the contrary, there is an anomaly that entered the primary file, was then set aside as 'irrelevant' into a special sector, later returned, and was removed from the central narrative of the official closing text. For this reason, the aim of this section is to place the radiation issue in its proper place with its true weight — neither reducing it to a

conspiracy fetish nor to a 'trivial footnote' at the level of the prosecution's language. Saying 'there was radiation' is not enough; the questions of what kind of radiation, in which objects, at what level, within what interpretation limits must be answered separately. This framework necessitates combining in a single backbone the laboratory report, beta contamination measurements, which garments were contaminated, tissue samples, Krivonischenko's Chelyabinsk-40 connection, clothing circulation, and paragraph headings removed from the draft.

11.1. Why Was the Radiological Examination Conducted?

Prosecutor Ivanov, with his decision dated May 18, 1959, requests a physical-technical expertise in the event and explicitly formulates this 'to understand the causes of death and to resolve whether there is radioactive contamination on the clothing.' In the same decision, it is written that the clothing of Zolotaryov, Dubinina, Kolevatov, and Thibeaux-Brignolle, along with some biological samples taken from these bodies, will be delivered to chief radiologist Levashov. This selection is not random: the radiological examination was conducted not for the first five bodies, but for the ravine quartet. That is, the investigation saw or at least found it worth investigating the anomaly specifically on the bodies found in the final phase. On the back of the same file page there is an even more striking note: 'Case sheets 370-378 are removed and stored as irrelevant in a special sector of the regional prosecutor's office.' These pages later returned to the archive; but the initial action is clear: the radiation file was withdrawn from the main flow of the investigation and placed separately.

This initial decision and the 'special sector' note immediately show two fundamental characteristics of the radiation issue in the case. First, the prosecution did not treat this as an incidental detail; otherwise no physical-technical expertise decision would have been issued. Second, the same prosecution later distanced this matter from the visible flow of the main file. Caution must be exercised here: 'special sector' is not automatically proof of a state conspiracy or nuclear secret. But the reverse is also not true; this action shows that this part of the file was found disturbing and was not seen as compatible with the main explanation. In other words, the radiation section acquired the status of 'an element that does not fit the narrative' already during the investigation phase.

11.2. What Did the Laboratory Measure?

The essence of the radiological analysis report can be summarized in three points. One: the amount of radioactive material in the examined biological samples is at natural level and is explained by Potassium-40. Two: in some examined clothing samples, a slightly excessive level of beta-emitting radioactive material was found. Three: this activity decreases with washing; therefore it carries the character not of 'induced radiation' or activation linked to neutron flux, but more of radioactive contamination with beta particles. These three points are the core of all the debate. Because they simultaneously say both 'there was radiation' and 'this was not severe nuclear exposure that penetrated the body.'

At this point, the concepts need to be simplified. Beta emission here means that some clothing surfaces were emitting radioactive particles. The report also states that alpha and gamma components were not detected. This technical detail is extremely important. Because in popular narratives, radiation is usually conceived with a holistic and dramatic image like 'nuclear explosion effect.' Yet the picture the laboratory describes is narrower: in selected clothing areas, there is a surface-character, beta-dominant contamination that is washable; and no abnormal internal radioactivity is detected in the tissues. For this reason, the following limit must be set from the very beginning: the radiation anomaly is real; but the form of this anomaly is not that of 'acute internal irradiation' or 'nuclear explosion victim.'

11.3. The Numbers: Which Measurement Was How High?

The most well-known but usually context-stripped part of the report is the contamination numbers. The expert's answers to the additional interrogation give the three most contaminated samples individually:

- No. 4 brown sweater: 9,900 beta decays/minute per 150 cm² at the time of investigation, 5,200 after three hours of washing.
- No. 1 sweater waistband piece: 5,600 before washing, 2,700 after washing.
- No. 1 trouser lower section: 5,000 before washing, 2,600 after washing.

In the same answer, the limit that should not exceed 5,000 decays per 150 cm² before washing according to the hygiene norms of the period, and the expectation of natural background after washing, are also recalled. That is, the laboratory does not consider these values 'normal'; on the contrary, it clearly states that there is an exceedance. Moreover, the clothing had remained in a stream for approximately 15 days before investigation; despite this, these values were measured. The expert himself therefore cautiously states that the real initial contamination may have been 'many times greater.'

Two extremes must be avoided when interpreting these numbers. One extreme is to say '9,900 is very large, so it is a nuclear bomb effect.' This is erroneous; because the report shows neither a gamma component nor explosion-like widespread exposure at tissue level. The other extreme is to trivialize the matter by looking at the expression 'slightly excessive.' This too is erroneous; because in the additional interrogation the expert explicitly states that under 'normal conditions under normal circumstances' such contamination would not be expected. The most accurate expression is: the measurements are abnormal, but they are not measurements of catastrophic scale explaining all bodies. Radiation is difficult to understand precisely for this reason: it is a real anomaly that cannot be directly linked to the central death mechanism.

11.4. What Does Washing Show?

One of the most technical but most critical findings of the report is that the activity decreases with washing. The brown sweater drops from 9,900 to 5,200, the other samples from 5,600 to 2,700 and from 5,000 to 2,600. This decrease is of key importance to the laboratory; because it suggests that the contamination is not 'induced radiation' that has penetrated the atomic structure of the fabric, but carries the character

of radioactive material adhering to the surface. The expert states this directly: the activity showing washing-off indicates that this is not activation linked to neutron flux, but contamination with beta particles. In other words, radiation has not 'transformed into the fabric itself'; it is something that has adhered to the surface of the fabric.

This finding narrows several speculations. First, the claim that group members were directly exposed to reactor-like neutron flux weakens. Second, the scenario that a single very high-energy nuclear source that appeared on the night of the event irradiated all of them at once also weakens; because in that case a different distribution in tissue and clothing patterns would be expected. Third, this finding forces us to the question 'when and how did the contamination get onto the clothing?' To solve the radiological anomaly, one needs to think not about the lethal mechanism but about the contamination chain.

11.5. What Do the Tissue Samples Say?

The actually critical sentence most often overlooked in the radiation debate concerns the biological samples: 'The content of radioactive materials in analyzed solid biosubstrates is within the natural level and is due to isotope K-40.' That is, in the sent solid biological samples, no abnormal radioactive content other than natural Potassium-40 level was detected. This sentence sharply draws the interpretation limit of radiation. If what caused the death of the ravine group were, for example, an acute radiation accident affecting the whole body, it would not be expected to see a completely natural background in such internal samples. Of course the laboratory capabilities of the period are limited; the expert also notes that radiochemical and spectrometric detail could not be done. But the available file still strongly permits the following conclusion: the anomaly is visible primarily in clothing surfaces, not inside the bodies.

For this reason, the disciplined conclusion of the radiation section should be: the radiological data is looking not at the biological center of the deaths, but at the objects and contact environment around the deaths. This makes the matter more complex, not less. Because the question now becomes not 'what were they exposed to?' but 'which clothing, when, in which environment, was contaminated?'

11.6. Which Garments Were Contaminated?

The file and additional interrogation state that the contamination was concentrated in selected clothing areas; these areas are not homogeneous contamination of the entire wardrobe. The most commonly mentioned samples:

- the brown sweater,
- the waistband region of a sweater,
- the lower section of a trouser.

The question of which body these pieces belonged to is not simple due to the clothing circulation in the file. This is precisely where the radiation anomaly merges with the ravine scene. Because the May 6 protocol and vol.2 notes show that a white cotton sweater not belonging to her was found on Dubinina, and Lyuda's green hat was on Tibo. This is not only a problem of returning items to families; it also directly affects

which contaminated clothing passed from which person to which person. That is, even the sentence 'Dubinina's clothing was radioactive' must be used carefully; a more accurate expression may be 'some clothing pieces found on Dubinina were radioactive.' Because in the final phase, clothing became detached from personal identity and changed hands according to the logic of thermal utility.

For this reason, the radiological pattern must be read not by person but by clothing. One of the greatest errors in the file is attaching contamination directly to the body. As shown in the ravine section, clothing was cut, divided, wrapped, wound around feet, and transferred to other bodies. The radiation anomaly is challenging precisely in the debate about cause of death for this reason: because clothing circulation makes it difficult to personalize the source.

11.7. Why Is Krivonischenko's Chelyabinsk-40 / PO Box 404 Connection Important?

The heaviest biographical data in the radiation section concerns Krivonischenko. The documents signed by Nuzhdin in case files vol.2 show that the prosecutor's office was contacted three times on behalf of the institution PO Box 404 at Chelyabinsk-40, inquiring about the death circumstances of 'former employee engineer Georgiy Alekseevich Krivonischenko.' In the same document line, the institution is also seen referred to as 'military unit 14178.' The DyatlovPass whois and rescuer/people database also clearly shows that Krivonischenko worked on the Mayak/PO Box 404 line, meaning he was connected to the closed nuclear-industrial environment.

This data is very important, but must be used carefully. Krivonischenko's Mayak connection does not by itself mean 'they witnessed a nuclear weapons test on the night of the event.' But it makes the following possibility serious: the source of the radiological contamination may not be the night of the event but the professional environment before the event, or objects transported from this environment. The expert's answer in the additional interrogation is also entirely appropriate for this: the clothing may have been contaminated either by atmospheric radioactive dust, by working with radioactive materials, or through contact. Krivonischenko's work makes at least one of these three options biographically plausible.

Therefore the sentence to be established here is:

Krivonischenko's Chelyabinsk-40 connection strongly opens the possibility of an independent and pre-event source for the radiation anomaly. This is a very critical simultaneously relieving and disturbing conclusion for the file. It is relieving because radiation does not necessarily have to have appeared on the night of the event. It is disturbing because the prosecution did not make this connection part of the publicly visible central narrative.

11.8. The Clothing Circulation Hypothesis: How Might Radiation Have Been Transported 'Between Persons'?

When the appearance of radiation in selected ravine clothing and Krivonischenko's biographical line are combined, the strongest intermediate model is clothing circulation. This hypothesis is constructed as follows:

- Within the group, at least one person carries surface beta-emission contamination transported from before the event.
- After the tent, particularly in the cedar and ravine phase, clothing is dismantled, cut, and redistributed.
- For this reason, even if the original source is one person, selected pieces on the final ravine quartet may carry this contamination.

The strength of this hypothesis is that:

- it fits the laboratory's 'surface contamination / washing-off' finding,
- it fits the natural K-40 result in tissue samples,
- it fits the intensive clothing circulation in the ravine scene,
- and biographically opens a source through Krivonischenko's Mayak background.

The limit of the hypothesis is: the file does not always clearly give who the first owner of which specific piece was. Furthermore, the contamination does not necessarily have to have come only from Krivonischenko; atmospheric dust or a contact chain is also possible. Yet within the available material, the lowest-assumption explanation is clothing-based transport. This model preserves radiation as a real anomaly but does not convert it into the central death mechanism of the night of the event.

11.9. How Strong Is 'Radioactive Dust from the Atmosphere'?

Expert Levashov's answer in the additional interrogation also leaves atmospheric radioactive dust open as a possibility. Given the intense atmospheric test environment of the Cold War, this is theoretically possible. But from the perspective of the file's own internal logic, this explanation has a weak side: if the issue were widespread and ordinary fallout, why would it become prominent specifically in selected ravine clothing pieces and limited areas? Why would it not appear at similar levels in the clothing of the entire group? For this reason, the 'atmospheric dust' possibility is one of the laboratory's theoretical options, but is not the strongest field model.

On the other hand, dismissing it completely is also not correct. Because the global test context of 1958-1959 theoretically leaves open the possibility of low-level but uneven fallout residue on clothing. Yet the selectivity of the available file and its concentration in the ravine group makes a more local and contact-based explanation stronger than simple general fallout.

11.10. The Paragraph Removed From the Draft: How Was the Narrative Trimmed?

The most political part of the radiation anomaly begins here. According to the narrative published by Stanislav Bogomolov and the archival reading circulating around DyatlovPass, in the unsigned first version of the closing decision there was a paragraph

about radioactive contamination in the clothing and about the group having no direct contact with radioactive materials in their work/study life; this draft was later crossed out with a blue pencil and removed from the final version. The same narrative emphasizes that in the final resolution neither fireball nor radiation remains, only 'overwhelming force.' Although some of this narrative is modern archival interpretation, when read together with the 'special sector' note and the radiation pages having been withdrawn from the file, it points in a direction: radiation information was deliberately pushed out of the central narrative of the investigation.

At this point it is necessary to be firm but careful. The paragraph having been removed from the draft does not automatically mean 'the state killed them.' But it does mean: the prosecution did not feel comfortable enough to bring the radioactive contamination in the clothing to the public and the official conclusion. This also serves the trimmed-narrative thesis that will be detailed in Section 13. In other words, the radiation anomaly is not only a physical but also a narrative anomaly.

11.11. How Important Is the Special Sector Issue?

The sentence 'Case sheets 370-378 are removed and stored as irrelevant in a special sector of the regional prosecutor's office' is one of the most cited lines of the case. Why it is important is clear: the prosecution on one hand commissioned a radiological examination, and on the other separated this examination from the main visible body of the file. This action alone is not evidence of a covert nuclear operation; but it is serious for the following three reasons:

- It points to an administratively unusual separation.
- The prosecution's classifying this material as 'irrelevant' is in tension with the laboratory's response of 'definitely not normal.'
- The later return of these pages to the archive shows that the removal action was temporary but deliberate.

For this reason, the most accurate interpretation of the special sector issue is:

The radiation finding produced a problem for the investigation rather than a solution; and things that produce problems were separated from the central narrative. This is not surprising in Soviet file culture. But it still cannot be minimized.

11.12. Could This Anomaly Have Been the Death Engine?

With the data gathered up to this point, this question can be honestly answered: no, the radiological data does not appear as the primary death engine on its own. The reasons are clear:

- there is no anomaly in tissue samples beyond natural K-40,
- contamination is on clothing surfaces and in selected areas,
- it decreases with washing,
- there is no gamma/alpha component,

- and the autopsy profile of the deaths is distributed on two separate physical lines: hypothermia and severe closed trauma.

If radiation were the primary death engine, this mechanism would be expected to leave a more central mark in autopsy and histology. Yet the available file says the opposite: the radiation report stands alongside the physical death line, as an independent anomaly that does not fully integrate with it. Therefore the disciplined conclusion of this section should be: radiation is not the primary cause of the deaths, but an unexplained contamination event surrounding the deaths.

11.13. Is This Anomaly Completely a Trivial Footnote?

An honest answer must also be given to this question: no, it is not completely trivial. Why? Because:

- the laboratory clearly detected a norm exceedance,
- it said 'this does not happen under normal conditions,'
- the clothing still gave measurements despite having remained in water for days,
- the prosecution set this part aside into a special sector and did not carry the draft narrative to the final text.

For this reason, minimizing radiation is also erroneous. The most accurate positioning is:

This is a real and disturbing secondary layer that is not the central death mechanism but, if the file is read honestly, calls for explanation. In short, neither 'the key that solves everything' nor 'a footnote that means nothing.'

11.14. Conclusion of the Section

The conclusions from the radiation anomaly section are:

- The prosecution on May 18, 1959 requested a special radiological examination for the clothing of the ravine quartet and some biological samples; this shows that it took the anomaly seriously at the investigation level.
- The laboratory found no abnormal internal radioactivity beyond natural Potassium-40 in biological samples; but detected surface, washable, beta-emission contamination in some clothing areas.
- The highest measurement was given as 9,900 decays/minute per 150 cm^2 in the brown sweater piece, dropping to 5,200 with washing; other hotspots were seen in the sweater waistband and trouser lower section.
- The activity decreasing with washing suggests this is not induced radiation but surface radioactive contamination.
- The intensive clothing circulation in the ravine scene and the Dubinina/Tibo notes make it necessary to read contamination through the clothing line, not the body line.

- Krivonischenko's PO Box 404 / Chelyabinsk-40 / Mayak connection seriously opens the possibility of a pre-event professional-institutional source.
- The radiation pages being stored in the 'special sector' and the draft narrative not being carried to the final text show that this finding did not fit into the central narrative of the investigation.

The most honest answer to the closing question of this section is:

Radiation is a real anomaly.

But with the available file it is not the primary death engine.

Its most accurate place is a secondary layer standing around the deaths, most probably carrying clothing-based contamination character, and deliberately pushed out of the investigative narrative.

11.15. The Levashov Report: Numerical Analysis

The Levashov radiology report dated May 27, 1959 is the fundamental technical source of the radiation debate in the case. The measurement results give the following table: Dubinina's brown sweater 9,900 cpm/150 cm², after washing 5,200; Kolevatov trouser lower section 5,000, after washing 2,600; Kolevatov sweater waist 5,600, after washing 2,700. Only beta emission was detected; no alpha or gamma. Tissue samples compared to the control group are completely normal, at K-40 level (Levashov radiology report, May 27, 1959, pp. 371-377).

Levashov's own statement frames this data: 'Under normal conditions such a level of contamination definitely does not occur.' Additionally, the bodies had been in water for approximately 15 days; meaning the actual contamination was much higher than the values found at the time of measurement. The activity decreasing with washing shows that this is not induced radiation but surface radioactive contamination.

Two separate conclusions emerge from this data. First: radiation is not the death engine. The tissue samples are completely clean; the abnormality is only in the clothing surface. Second: contamination is real and abnormal; it is above the Soviet occupational safety norm. The strongest source hypothesis is pre-event professional contact through Krivonischenko's Chelyabinsk-40/PO Box 404 connection and subsequent clothing circulation in the cedar-ravine phase. There is no direct document, but the available data points in this direction. 'What happened': 90%+ closed. 'Source': 65% Krivonischenko line, not definitive. Source: Levashov radiology report, May 27, 1959, pp. 371-377.

12. Rocket, Meteorological Rocket, Lights, and Technogenic Hypotheses

This section is written according to the scope of Section 12 in the file plan determined by the user.

In the Dyatlov Pass case, 'technogenic' hypotheses — the view that the event was triggered by a man-made aircraft, rocket, meteorological rocket, fuel cloud, explosion, heat ray, or similar mechanism — constitute one of the most persistent and most resistant explanation clusters in the file. The reason is not only public curiosity. This line is genuinely fed by some primary and semi-primary materials: Maslennikov's notes that caused the meteorological rocket possibility to be asked of the investigation commission, the importance Lev Ivanov gave to 'fireballs' years later, the luminous object narratives observed on February 17 and March 31, and later interpretations by Karelin, Bartolomey, and some other names opening toward the possibility of man-made effect, all feed this cluster. But at the same time this is also true: this hypothesis family is the area in the Dyatlov literature where evidence and interpretation are most mixed up. That is, here pure fabrication and clean evidence are not intertwined; rather, real anomalies and large layers of interpretation piled on top of them are intertwined.

The purpose of this section is neither to collectively reject technogenic hypotheses nor to magnify them for the sake of excitement. The aim is to divide them into four separate layers:

- (1) those that are genuinely documented,
- (2) technical interpretations constructed later,
- (3) narratives that carry testimonial weight but were given at a late date,
- (4) technically weak or internally inconsistent speculations.

When this distinction is not made, for example, a testimony like 'a light was seen in the sky' and a far more advanced conclusion like 'therefore an S-75 missile attacked the group with a toxic cloud' are seen treated with equal weight. Yet these are not in the same category. Technogenic theories can only be taken seriously if this distinction is preserved.

12.1. Fireballs / Luminous Objects: The Real Testimony Line

It is necessary to begin with the most solid layer. 'Fireballs,' 'bright spheres,' 'moving balls of light,' or 'balls of fire in the sky' narratives genuinely exist in the Dyatlov case. This is not an internet legend produced afterward. Lev Ivanov's 'Mystery of the fireballs' text published years later attempts to associate these light events with the case after the investigation. There, he argues that they saw burn marks on some trees at the forest boundary and that this strengthened the idea of a 'heat ray or energy completely foreign to us.' The same line is also repeated in Bogomolov's compiled 'fireballs' narrative and in some observation relay lines of that period. So the following sentence can be safely stated: luminous object observations are a historical testimony line genuinely circulating around the case.

But the first limit must be set here. The existence of this testimony line does not by itself mean that those lights established a causal relationship with the Dyatlov group on the night of the event. There is a large gap between a light having been seen in a region and saying that this light triggered the exit from the tent that night. Unless this gap is filled with time, route, distance, meteorological visibility, and impact mechanism, the observation is only an observation. The biggest problem with technogenic debates in

the Dyatlov file starts precisely at this point: testimony begins to be used in place of causality. This analytical leap is loading more than the file carries.

12.2. Maslennikov's Meteorological Rocket Note: Why Is It Serious?

One of the most important primary pieces within technogenic hypotheses is the meteorological rocket note written in Maslennikov's notebook. In the note dated March 2, the idea that 'a person may have gone outside' is mentioned together with the Chinese lantern on top of the tent, and immediately afterward it is stated that 'new types of meteorological rockets launched beyond Sverdlovsk in the Southern Urals fall in this region' and that it must be urgently asked whether such a rocket was in the region on the night of February 1. A similar request is repeated in other notes from the same day. This is very important; because the meteorological rocket possibility was not a blog theory constructed at a desk years later — it was a possibility genuinely asked about in 1959 in the field, while the search was still ongoing.

Why is this record important? Because it simultaneously shows two things. First, some members of the search team thought not only of weather conditions but also of a man-made sky-sourced phenomenon to explain the exit from the tent. Second, the motivation for this thought is unclear: was it a trace observed in the field, other testimonies, general knowledge of aerial activity of the period, or was it only analogical reasoning? Pechurkina's later statement while interpreting this note, 'we don't know why this request was made,' also confirms this ambiguity. That is, the meteorological rocket note is serious because it is real; but it is limited because it does not clearly explain why it was asked.

The most honest formula here would be:

The meteorological rocket possibility was genuinely considered in the field; but this does not mean the rocket was actually the cause of the event.

In other words, the note produces a theory; it does not produce evidence. But completely discarding it is also not correct, because it shows how early the idea of 'man-made sky-sourced effect' around the case was born.

12.3. The Bartolomey and Karelin Line: Intuition of a Man-Made Phenomenon

Technogenic hypotheses are fed not only from Ivanov and Maslennikov notes, but also from the interpretations of some later search participants and contemporary circle names. The two most cited names in this line are Pyotr Bartolomey and Igor Karelin. The person/who is who page of DyatlovPass identifies Bartolomey as someone Dyatlov invited but who did not participate in the hike; who later served in the search between March 13-23, 1959. Karelin is one of the names both present in the early search process and making strong interpretations in later years. This biographical data is important; because these people are not 'distant forum commentators' but individuals historically connected to the case.

But the real issue is not biography but interpretation. In Karelin's recollections text years later, an interpretation clearly shifting toward the 'real space rocket' line is seen. Similarly, Bartolomey is also presented in later interviews in a line that opens a door to the possibility of a man-made phenomenon and is at least distant from a 'completely natural' explanation. However the critical distinction must be preserved here: these are interpretations standing between field testimony and theory developed years later. That is, Bartolomey or Karelin thinking in this direction does not automatically constitute technical proof. Their value is that some historical actors close to the case also found the natural explanation insufficient; but this does not determine which technical scenario is correct.

For this reason, the most accurate use of the Bartolomey-Karelin line is:

technogenic theories were not only imposed from outside; some historical figures close to the case also took this possibility seriously.

But the weak point of this line also starts precisely here: the technical interpretations of these figures are often reconstructions built decades later, combining information fragments from different periods and going further than the physical core of the file. Therefore these produce 'claim seriousness'; they do not produce 'final evidence.'

12.4. Askinadzi's Track: Strong Witness, Weak Technical Conclusion

Vladimir Askinadzi is a search witness in the Dyatlov case who cannot be taken lightly. In his later letters and selected passages, he thinks particularly about the footprints, the ravine surroundings, and some 'could someone else have been there before us?' type possibilities. In the 2023 letter selection, he says that if what they saw were really footprints, they could belong to someone who passed through there before the search team, and he even emphasizes the absence of ski tracks. However the most important sentence of the same passage is this: he himself states that these are 'thoughts out loud, nothing more.' This single sentence simultaneously shows both the speculative power and the limit of Askinadzi.

This is very instructive for technogenic and intervention hypotheses. Because in Askinadzi's narratives there are genuinely some disturbing details: the nature of the tracks, notebook stories, who might have been there. But even Askinadzi himself does not sell these as definitive verdicts. Therefore harder formulations circulating under his name such as 'professional military tracks,' 'definite outsider footprint,' or 'operation scene' are often modern amplifications that exceed the witness's own caution. For this reason, Askinadzi's value is pointing to gaps in the file; not constructing a technical technogenic model.

12.5. S-75 and Similar Missile Scenarios: Why Attractive, Why Weak?

In the Dyatlov literature, the technogenic line has evolved over time from meteorological rockets and 'fireballs' to more specific missile models. The most prominent example is the S-75 line. These types of theories generally construct the following chain:

there were military tests in the region → luminous objects were seen → radiation was found in clothing → some traumas are inconsistent with ordinary falls → therefore a missile, fuel cloud, or shock wave may have come into play.

Why this theory is attractive is clear. Because it combines several separate anomalies in a single center: light, panic, radiation, and severe trauma. However it weakens technically precisely here. Slobtsov's 2006 interview expresses this weakness very well. There it is clearly stated that the S-75 is an 'upward-firing' air defense missile, that it being blown sideways and arriving at the scene in this way is unrealistic, that assumptions like a hundred-kilometer lateral deviation are not convincing. In other words, some historical actors themselves found certain missile scenarios technically weak.

A second technical weakness must also be added: the technogenic hypothesis camp is not internally consistent. To explain the same case, one place suggests an S-75, another a 'real space rocket,' another a meteorological rocket, another a fuel cloud or aircraft accident. This variety looks like richness at first glance; but it creates a problem from a technical analysis perspective. Because if it were really the trace of a specific system, the theory family would become more specific over time. But here the opposite happens: as ambiguity increases, the number of scenarios increases. This tells us: the technogenic hypothesis family is currently still circling around the intuition of man-made effect rather than a specifically identified platform.

12.6. Why Is 'We Saw a Fireball, Therefore That Is the Cause of Death' Insufficient?

Most technogenic theories make a direct or indirect 'observation → cause' leap. It is necessary to clearly state why this leap is erroneous.

A luminous object observation alone does not answer the following questions:

- exactly what date and time it was seen,
- what distance it was from the tent or the group,
- what kind of object it was,
- through what mechanism it physically produced an effect,
- how we can know whether the group saw it,
- if they saw it, how we can prove that a sufficient threat perception was generated to explain the entire group descending with incomplete equipment.

Lev Ivanov's fireballs text and the narratives around it attempt to intuitively answer some of these questions; but a chain at the forensic file level is not established. The same problem applies to the Bogomolov compilation. The light observation line suggests that there may have been an extraordinary atmospheric phenomenon or man-made flight activity around the event; but placing this phenomenon as the direct trigger of the exit from the tent requires more links. These links are absent in the available file.

For this reason, the most accurate sentence here is:

Fireball testimonies are important because they generated an extraordinary celestial/atmospheric event perception around the case; but this perception alone is not evidence of the death mechanism.

12.7. What Is the Strongest Aspect of Technogenic Hypotheses?

To be fair, technogenic theories are not entirely unfounded; they have some strong points.

First, they correctly sense the need for a sudden external trigger for the exit from the tent. This is the right intuition. Because the tent being cut from inside and the shoes remaining inside cannot be explained by ordinary discomfort.

Second, they notice the narrative trimming in the file. The removal of radiation from the central narrative, the special sector issue, and the fireballs line becoming invisible in the official finale legitimately pushes the technogenic camp toward suspicion.

Third, they correctly see that the traumas in the ravine group go beyond the ordinary 'fell and got slightly hurt' line. This intuition is also correct.

That is, the strength of technogenic theories is that they make contact with nodes in the file that genuinely appear unsolved. This is what makes them worthy of being taken seriously. But precisely at this point their weaknesses come into play: they try to force-solve all these nodes into a single missile/rocket scheme. This is intuitively impressive but technically often too much of a leap.

12.8. What Is the Weakest Aspect of Technogenic Hypotheses?

The weakest aspect is that they cannot fully integrate with the physical backbone of the file.

Because today we have:

- the tent was cut from inside,
- the group descended in a controlled manner with footprints,
- there is fire and first survival struggle at the cedar,
- then a return line and a separate ravine-shelter line formed,
- in the ravine quartet there is a second phase consistent with severe closed trauma.

This backbone can integrate very well with a natural/environmental initial trigger + second mechanical event model. Technogenic models, however, are often forced to add new assumptions to surpass this: they saw the light, they thought it was an explosion, they descended collectively, then a second event occurred in the ravine, radiation accompanied this, the prosecution erased it. When so many intermediate links are required, the model becomes progressively heavier and less economical.

The modern comparison must also be added here. The 2019-2020 prosecutor's reinvestigation evaluated only natural phenomenon scenarios, leaving murder and

technogenic lines outside; in 2020 it reached a conclusion on the 'avalanche' line. This need not be taken as absolute truth on its own; but the fact that the state returned to the file a second time and still did not choose the man-made line is important. Later the EPFL/ETH model also showed that at least for the initial break, an explanation similar to a small slab avalanche/wind-loaded snow release is physically possible. This does not automatically refute technogenic hypotheses; but it eliminates their 'there is no other explanation' advantage.

12.9. Should the Meteorological Rocket Possibility Be Completely Discarded?

No. Completely discarding it would be intellectual laziness. Because Maslennikov's note is primary and was genuinely asked about in the field. Furthermore the fireballs line is also historically present. For this reason the following possibility always remains on the table:

In the region on those days or that night, whether or not seen by the group, there was man-made aerial activity, and this activity created, at least during the investigation, a strong association for some people in explaining the exit from the tent.

However, the available data is still weak to elevate this possibility to the 'primary cause' position. No direct rocket fragment, definite time match, clear military record, explicit technical link in the primary file, or specific physical trace overlapping with the death mechanism has been found. For this reason, the most accurate position of the meteorological rocket line is: a serious but unverified secondary hypothesis. Not the main model, but an alternative kept on the table.

12.10. The Narrative Function of S-75, Rocket, and Technogenic Narratives

There is also a meta-level here. Technogenic theories are not only physical explanation attempts; they are also the symbolic counterpart of distrust toward the Soviet narrative. People go to concepts like 'fireballs,' 'rocket,' 'S-75,' 'fuel cloud' not only for technical satisfaction but also as a response to the trimmed nature of the file. Because the official narrative says 'overwhelming force,' then removes radiation, pushes fireballs out, and closes the file. In this situation, technogenic theories sometimes become not a technical tool but a means of resisting the narrative.

It is important to see this sociological function; because otherwise it becomes harder to understand why technogenic theories are so long-lived. They do not survive only because they are possible physical models; they also survive because they carry the feeling that 'there was something the state did not fully tell.' But a theory being narratively satisfying does not mean it is technically correct. This is precisely why this section must be disciplined.

12.11. Conclusion of the Section

The conclusions from this section can be classified as follows:

Documented and requiring serious consideration:

- Fireballs/luminous object observations historically exist.
- Lev Ivanov considered this line important years later.
- Maslennikov requested asking whether a new type of meteorological rocket was in the region on the night of February 1.
- Bartolomey, Karelin, and some other historical figures were open to the possibility of a man-made phenomenon.

Legitimate as interpretation but technically limited:

- That these luminous events could be the trigger for the exit from the tent,
- that some members of the group may have panicked taking them for an explosion or military event,
- that the meteorological rocket line having been taken seriously in the field was not coincidental.

Technically weak or excessively leaping:

- Claims that specific missile systems such as the S-75 in particular are directly linked to the event,
- the assumption that a single missile/rocket model cleanly explains at the same time the lights, the evacuation, the radiation, and the ravine traumas,
- deriving the conclusion 'definite military operation' from the cautious doubts of witnesses like Askinadzi.

For this reason, the final verdict of the section is:

Missile, meteorological rocket, lights, and general technogenic hypotheses are not headings in the Dyatlov file that are entirely fabricated or easily discarded.

But with current data, these are not the main explanation; they are alternative explanation clusters that capture some real anomalies in the file but remain technically weak in combining them into a single man-made mechanism.

13. The Prosecution, the CPSU, and the Trimmed Narrative

Reading the Dyatlov Pass case through death mechanisms alone remains incomplete. Because the most distinguishing aspect of this file is not only how the people died, but how the deaths were narrated. The prosecution, the party, and the administrative mechanism did not produce a file that preserved the physical complexity of the event; on the contrary, they pushed a multi-layered case progressively toward a simpler, more manageable, and more politically safe narrative. This is precisely the fundamental argument of this section: the real cover-up does not have to reside in the death itself; it may reside in the trimming of the narrative surrounding the death.

Prosecutor Ivanov was not the architect of the cover-up but a traumatized bureaucrat of the cover-up. He closed the case by saying 'overwhelming natural force' because the political order required it. However, the radiation and light anomalies he removed from the file with his own hands created a permanent cognitive dissonance in his forensic intelligence. His turning to 'alien or fireball' theories years later stems not from his revealing a hidden truth, but from his never being able to genuinely convince his conscience of the incomplete 'natural disaster' lie he himself wrote.

To establish this thesis, four links must be read together. The first is the language and structure of the May 28, 1959 closing decision. The second is the differences between the initial draft — which Bogomolov conveys was crossed out with a blue pencil in the file — and the final decision. The third is the CPSU special reports placing the event into the mold of 'hurricane + orientation loss + low temperatures + organizational shortcomings' at a very early stage. The fourth is the non-disclosure documents dated May 1959 and the controlled access, limited document circulation, and official post-closure silence seen in later testimonies. Each of these carries meaning individually; but read together, they show that the investigation was as much a narrative management process as a 'truth production.'

13.1. The Language of the Closing Decision: Framework, Not Solution

The closing decision dated May 28, 1959 is the most famous and most cited text of the Dyatlov file. But its function must be correctly understood. This decision is not a forensic synthesis that resolves all the physical nodes of the event; it is more a framework text that simplifies the scattered and disturbing data just enough for legal closure. In the final part of the text, after the prosecution emphasizes that no other human traces were found in the area, that no accusatory data was found regarding the Mansi people, that there were no signs of struggle or open attack on the bodies, and that valuables remained in place, it closes the cause of the group's death with the formula 'overwhelming force, which the hikers were not able to overcome.' In the same decision, organizational failures regarding UPI and the sports club management are also addressed as a separate area of administrative responsibility.

This formulation says a great deal, but for precisely that reason also says too little. The concept of 'overwhelming force' is legally useful; because without certifying a specific natural event and while rejecting the possibility of an external perpetrator, it leaves the file at an open but closeable point. This formula could be an avalanche, a storm, wind, fear, or a combination of all. Precisely for this reason it is advantageous for the investigation; because it is not explanatory, it is rounded. Here the prosecution has not arrived at a language for the physical problem, but at a language suitable for closing the file. For this reason, reading the closing decision as a 'final scientific explanation' is erroneous; it rather shows which breadth of explanation the prosecution preferred.

The same thing is seen when looking at the structure of the decision. The text first establishes the route, the error chain, the late departure, and the wrong slope narrative; then summarizes the basic findings of the tent, footprints, first five bodies, and ravine quartet; and then gathers multi-layered physical data into a single-sentence conclusion.

This is forensically weak but bureaucratically strong. Because the text records the deep difference between the severe traumas in the ravine quartet and the hypothermia line of the first five; but at the final does not explain the mechanism connecting them. Thus the real problem in the file is preserved, but becomes invisible in the narrative. The prosecution's true achievement or fault lies here.

13.2. The Difference Between the Draft and the Final Text: Why Does It Matter?

One of the most critical narrative nodes in the Dyatlov file is the difference between the initial closing draft that Bogomolov conveys and the final text. According to Bogomolov's archival reading, in the file there was found an initial closure text dated May 28 but unsigned, crossed out page by page with a blue pencil. In this first version, there was a paragraph stating that radioactive contamination was found in the hikers' clothing and that they had no contact with radioactive materials in their work or educational lives. Bogomolov says that in the final decision neither the fireballs line nor the radiation information remains, and only the 'overwhelming force' formula is left.

The degree of veracity of this information is not as strong as the unquestionably primary signed final decision; because what conveys this to us is an interpretive line conducting archival reading years later. But there are two reasons that make taking this detail seriously necessary. First, there is an intra-file note that the radiation pages were genuinely placed in the 'special sector.' Second, the final closing decision genuinely contains no reference to the radiation anomaly; yet the investigation commissioned a special radiological examination on May 18 and the results reached the prosecution. When these two facts are considered together, the Bogomolov-narrated 'it was in the draft, absent in the final' line does not appear to be entirely arbitrary speculation. A more cautious but strong formula is: radiation information was at some point deemed significant within the investigation, but was not incorporated into the center of the final official narrative. The first leg of this claim — the radiation pages being placed in the 'special sector' — is documented with a direct intra-file note and carries strong primary evidence. The second leg — the claim that the draft text was crossed out with a blue pencil — rests on Bogomolov's archival interpretation and has not been confirmed with an independent primary source. These two legs carry separate weights.

Why does this difference matter? Because here the question is not 'did radiation kill them?' The real question is: why did the prosecution remove from its closing narrative a finding it itself had collected and which was described as 'this does not happen under normal conditions'? The answer could be that radiation was not the cause of death; but this is not by itself sufficient. Because while the prosecution was putting many administrative details not directly related to death into the final text, it left out the radiation information that was the subject of specialized expertise within the investigation. This looks not like pure scientific cleansing but like narrative simplification.

13.3. How Does the Expression 'Overwhelming Force' Work?

'Overwhelming force' is the most famous but most hollow expression in the file. The power of this concept lies precisely in its vagueness. The prosecution here does not

choose a specific natural event; it does not say avalanche, storm, wind, snow load. But at the same time it also closes off the possibility of an external perpetrator. Thus it both narrows the murder suspicion and sheds the burden of explanation. Legally this is skillful; analytically it is insufficient. Because the case is knotted precisely at this point: what was the initial trigger, at what phase did the severe traumas of the ravine quartet come, why was there radiation? 'Overwhelming force' solves none of these; it only dissolves all of them in a single fog sentence.

Another function of this formula is political. Because this expression simultaneously meets the two targets preferred by the party and prosecution mechanism:

- Closing the event without placing it on the axis of external sabotage, state secret, or military error,
- At the same time giving the appearance that 'the system worked' by penalizing certain local organizational failures.

In other words, 'overwhelming force' is not only a natural explanation; it is also a management tool that distributes responsibility. Nature killed, the group made errors, and institutions showed weak oversight; thus the file becomes politically and legally portable. This may be true; but at minimum the function of the formula is clear.

13.4. CPSU Special Reports: How Early Did the Narrative Simplify?

Even more important than the prosecution's final text is how early the party line framed the event. The 'classified' report dated March 7, 1959, going to the CPSU Central Committee and the USSR Council of Ministers, shows the initial logic of the search and how quickly the high-level state mechanism took interest in the event. This report announces that the group had disappeared, that the tent was found on February 26, that four bodies emerged the next day, and that the Sverdlovsk regional committee had formed a commission. That is, the event entered the radar of the party-state hierarchy at a very early stage.

The Sverdlovsk City Committee report dated March 27, 1959 shows that narrative simplification was by then already complete. In this 'top secret' text, the 'immediate cause' of death is given directly as 'strong hurricane'; it says the members scattered after leaving the tent, lost their direction, and died in low temperatures. The same report shifts the main emphasis to the failures of UPI and the sports club: setting up the tent on a treeless slope was wrong, leaving the tent in such weather was recklessness, and the route commission and club procedures were weak. What is striking here is not that the report fails to center the severe trauma of the ravine quartet and the radiation anomaly; it is that it never centered them at all. The party narrative settled into a very simple mold before March was even over: 'hurricane + disorientation + low temperatures + organizational negligence.'

This early simplification is very important. Because it shows us that the prosecution's later closing of the file in this way was not a single individual preference; that the party line had already placed the event in this schema. In other words, the final language in the closing decision does not emerge from thin air. The political infrastructure of that

language was prepared in the CPSU reports in March. For this reason, the 'trimmed narrative' thesis cannot be reduced to only prosecutor Ivanov; it is the product of a broader administrative reflex.

13.5. How Was the Natural Disaster + Organizational Error Narrative Constructed?

The construction of this narrative is gradual. In the first phase, while the search continues, the tent is seen to have been cut from inside, items remained inside, and the first five bodies are on the freezing line. At this point the skeleton of 'sudden evacuation + environmental crisis' already forms. In the second phase, party commissions enter and a manageable moral-administrative framework is added on top of this skeleton: the tent being set up in the wrong place, the weak oversight of the sports club and route commission, irregularities in control dates and documents. In the third phase, the elements of the file that do not fit this framework — radiation, fireballs, particularly specialized technical debates — are pushed out of the central text. What remains in the end is the narrative: powerful nature, weak control, tragic error.

Why is this narrative successful? Because it genuinely rests on part of the real data:

- the group started late,
- veered onto the wrong slope,
- the tent was set up on the open line,
- some members genuinely died in low temperature,
- there genuinely were oversight failures in the institutions.

Therefore the narrative is not entirely a lie. The real issue is that it is incomplete truth. The severe traumas of the ravine quartet, the radiation anomaly, and the investigation's own discomfort do not comfortably fit into this model. But political narratives often work precisely this way: they do not produce complete lies; by removing disturbing layers, they leave behind a manageable half-truth.

13.6. Non-Disclosure Documents: What Do They Prove, What Do They Not Prove?

The index relating to the second volume of the Dyatlov file and subsequent testimonies show that the May 14, 1959 Maslennikov and Yarovoy 'non-disclosure' documents are found in the second volume. The case files vol.2 index on DyatlovPass contains direct entries of 'May 14 Maslennikov's non-disclosure' and 'May 14 Yarovoy non-disclosure'; Karelin's 2021 commentary also explicitly mentions the existence and dates of these documents. This is a very important data point: limited access was given to certain people to the investigation material, and this access was bound with a confidentiality pledge.

What this proves and what it does not prove must be well distinguished.

What it proves:

- The file was not left in ordinary open circulation.
- If some people saw documents, they did not have the right to carry them freely.
- The circulation of investigation material was controlled.

What it does not prove:

- automatically that the state killed,
- that there is necessarily a 'great secret' in the file,
- that all search participants were silenced.

Indeed, some other testimonies also show that not everyone signed a non-disclosure; for example, Slobtsov and some pilots said such a document was not requested from them. This also suggests to us that the secrecy was not a homogeneous and universally imposed regime, but selective document access and controlled information circulation.

This selectivity is important. Because it fits precisely the 'trimmed narrative' thesis: not everyone is silenced; but details that could disrupt the narrative are not left in everyone's hands.

13.7. Was There a Division of Labor Between the Prosecution and the Party?

Yes, but this division of labor feeds each other. The prosecution produces the forensic file; the party frames the administrative and political consequences of the event. These two are not the same, but along the March-May 1959 line they work toward the same result. The prosecution leaves the mechanism vague by saying 'overwhelming force'; the CPSU reports translate this into a more political and instructive language like 'strong hurricane + organizational negligence.' The prosecution performs the legal closure; the party highlights 'institutional failures from which lessons must be drawn.' In the end both structures fail to preserve the multi-layered nature of the event; they divide it into manageable pieces.

What is interesting here is that the party reports simplified even faster than the prosecution decision. This suggests that narrative production stems not only from forensic weakness but from managerial necessity. Instead of a large and confusing death file, the story of 'harsh nature + error + control deficiency' is more portable for the system.

13.8. How Should the Word 'Cover-Up' Be Used Here?

The word 'cover-up' must be used carefully in this section. If by this word is meant 'the state killed and concealed the guilt,' the available primary file does not directly prove this. But if by 'cover-up' is meant the removal of the complex and disturbing parts of the event from the central narrative, the closing of the file with vague concepts, and the production of a politically manageable summary, this is a stronger thesis. This is precisely why the main argument of this section is phrased as 'there may have been a cover-up not in the death but in the narrative.'

This expression both avoids going too far and allows the managerial reflex in the file to be taken seriously. Because we have:

- the radiation finding exists within the investigation, but is absent in the final,
- the fireballs line exists around the investigation, but is absent in the final,
- the ravine traumas are very serious, but the explanatory mechanism is absent in the final,
- instead there is a rounded 'overwhelming force' and organizational penalties.

This sequence gives the impression of narrative trimming rather than pure coincidence.

13.9. Conclusion of the Section

The main conclusions from this section are:

- The closing decision dated May 28, 1959 is more a rounded framework text that makes the event legally closeable than one that resolves its physical complexity; its central formula is 'overwhelming force.'
- The claim conveyed by Bogomolov that the initial draft contained a radiation paragraph and that this draft was crossed out with a blue pencil is not definitive on its own; but read together with the 'special sector' note and its absence in the final text, it is seriously meaningful.
- The CPSU reports placed the event into the mold of 'strong hurricane + orientation loss + low temperatures + organizational shortcomings' at a very early stage; this constitutes the political infrastructure of the prosecution's final language.
- Non-disclosure documents and selective document access show that the file was not left in free circulation; but that this was also not a fully equal regime of silence imposed on everyone.
- For this reason, the 'trimmed narrative' thesis appears stronger than the 'killing conspiracy' thesis: not all details of the event were denied, but the disturbing layers were pushed outside the central narrative.

The fundamental argument of this section is thus confirmed:

The real cover-up did not have to conceal every detail of the death mechanism; the real cover-up may have consisted of reducing a multi-layered event to a single-layered and manageable narrative.

14. Final Synthesis: Most Probable Model, Alternatives, and Open Nodes

This section is the final synthesis section written to correspond to heading 14 of the uploaded plan.

The main conclusion reached by this file on the Dyatlov Pass case is: a single death mechanism, a single 'grand explanation,' or a single perpetrator type does not cleanly carry all of the available data. The true backbone of the file consists of several layers that are added to each other but cannot be reduced to each other:

- an acute trigger that made the tent unsafe or was perceived as such on the night of February 1,
- a controlled but incompletely equipped mass withdrawal following this, descending from the open slope toward the forest line,
- a short-term survival order and failed return at the cedar line,
- a second shelter-building attempt in the ravine and a second disaster opening toward high-energy closed trauma,
- and then the investigation's reduction of this multi-layered structure to a single-layered official language.

This synthesis emerges when the tent cut from inside, the 8-9 person track series, the fire and tree intervention at the cedar, the flooring and clothing economy in the ravine, the autopsy distinction between the first five and last four, and the radiation finding being pushed out of the main narrative are read together.

This section will first establish the main scenario; then classify the second probable scenario, then scenarios that are weak but must remain on the table; and finally separate the unresolved nodes and which data carries what and what it does not. The ultimate aim is not to produce a 'definitive answer' but to establish a probability hierarchy appropriate to the weight of evidence.

14.1. Main Scenario: Natural Initial Trigger + Failed Recovery at Cedar + Second Mechanical Disaster in Ravine

This is the main model reached by this file. In its shortest formula:

First phase: The group set up camp on February 1 evening at a wrong or unfavorable point on the open slope. The tent was abandoned not by an attack from outside but by being cut from inside; this shows a sudden threat perception in which those inside believed the normal entrance was not fast enough or safe enough. The footprints show that the first moment was not complete chaos but a controlled withdrawal directed downward and toward the forest line. These two data points together suggest that the initial break began with a real or perceived natural/environmental urgency. The camp decision and final camp geometry are clearly seen in the closing decision; the inside cuts and functional setup of the tent in the forensic expertise; and the collective and relatively orderly nature of the tracks in the footprint protocols.

Second phase: After reaching the cedar line, the group did not completely disintegrate; it lit a fire, broke branches, and probably climbed the tree to see above or collect branches. The first two bodies collapsed here; the subgroup in better condition or carrying more hope tried to return upward. The positions and autopsies of Dyatlov,

Kolmogorova, and Slobodin clearly show that they died on the return line. In this phase the primary death mechanism is hypothermia; there are minor external injuries but no lethal internal trauma of the ravine group type.

Third phase: The group did not end here. Another subgroup saw that staying at the cedar was insufficient and searched for a more sheltered second micro-shelter. The ravine was chosen for this reason. Here flooring was built, clothing was dismantled, cut, and redistributed; that is, the ravine was not a passive fall area but an active second survival scene. However in this scene a second mechanical disaster occurred. The high-energy closed traumas seen in Dubinina, Zolotaryov, and Thibeaux-Brignolle; Kolevatov's being in the same scene but not bearing the same degree of trauma; and the in-stream water, hard upper snow layer, and micro-terrain structure prone to collapse together suggest that the most economical model is a local collapse/snow bridge fracture/fall-entrapment combination in the ravine. This fits relatively well both to histology's premortem hemorrhage finding and to the absence of severe external soft tissue crushing.

The greatest strength of this main model is that it carries the most findings of the file with the fewest assumptions simultaneously. It explains together:

- why the tent was cut from inside,
- why the group was not fully equipped but still descended together,
- why there is fire and tree intervention at the cedar,
- why the first five bodies are on the hypothermia line,
- why the last four are found in a different micro-scene,
- why three of the last four have severe closed trauma.

The weak side of this model is its inability to definitively establish the exact nature of the initial trigger. When saying 'natural initial trigger' here, the strongest candidate in our possession is the small slab avalanche / wind-loaded snow release / snow pressure-collapse fear line; but this is not full proof. Yet the mechanical model published in Nature, despite the low-slope objection, showed that such a slab fracture is physically possible and that the snow cross-section created during camp setup combined with wind loading can produce delayed collapse, thereby strengthening this main model. For this reason this is currently the strongest natural candidate for explaining the first phase.

My probability range for this main model: 70-80%

14.2. Internal Logic of the Main Scenario: Why Is It So Strong?

The strength of this model is that it explains the behavioral sequence of the event without breaking it. In the Dyatlov case, the most important error is gathering events either into a single moment or a single cause. But the strongest synthesis is the one that accepts that different behavioral forms belong to different phases.

The exit behavior from the tent is clearly sudden and urgent; but the footprints show it was not complete panic. So the initial break is something between 'orderly camp' and 'death chaos': an urgent but directed withdrawal. The cedar line is too organized to be expected after complete panic; there is fire, branch breaking, and probable climbing. So mental collapse was not completed. The ravine goes beyond this even; here there is a second and more deliberate shelter logic. This gradual flow looks better than technogenic or purely criminal scenarios; because those often have to break the rationality of the subsequent behavioral sequence while explaining the violence of the initial break. But the natural initial trigger + second mechanical disaster model preserves the rational residues at the cedar and in the ravine.

Furthermore, this model also fits the autopsy family. In the first five, hypothermia is dominant; in three of the last four, severe closed trauma is dominant. If a single military explosion, a single large shock wave, or a single external perpetrator movement were decisive, such clearly two distinct death families would not be expected. But here there are two separate death logics and these correspond to two separate field logics: the cedar-return line and the ravine-shelter line. This correspondence is the most important element strengthening the main scenario.

14.3. Second Probable Scenario: Natural Backbone + Man-Made Secondary Trigger / Information Fragment

The second scenario is not as strong as the main model; but completely excluding it is also not correct. Its summary is:

The core death backbone could again be natural/mechanical; but on the night of February 1 or in that period in the region, there really was man-made aerial/rocket activity, and this either affected the group's threat perception or at least left some disturbing traces within the investigation.

Three things show why this scenario should remain on the table.

First, the meteorological rocket possibility being asked in Maslennikov's notebook in the field itself — not days after the event but in the heat of the search — shows that man-made sky phenomena were genuinely considered around the investigation.

Second, fireballs/luminous object testimonies genuinely exist. Lev Ivanov's returning to them years later does not mean he invented them from scratch; it is clear that this line was discussed around the investigation.

Third, the radiation anomaly and its having been narratively pushed out of the file shows that at least at the prosecution level there was a technical discomfort that 'does not fit the central explanation.' This discomfort does not mean directly a rocket/missile cause; but it suggests that the investigation did not want to carry certain physical or technical details in the central story.

The most economical version of this second scenario is not a heavy formula like 'a missile hit and killed them,' but a narrower one: In a scene already naturally ready to break, a man-made light/rocket/celestial activity may have been a secondary factor that amplified fear or contaminated the investigation. For example, the group, already

sensing the tent as threatened, may have interpreted an extraordinary atmospheric phenomenon seen or heard outside as 'greater danger.' This does not change the central death model; it only sharpens the initial trigger perception.

My probability range for this second scenario: 20-30%.

That is, I do not ignore it; but I also do not abandon the main model in its favor.

14.4. Weak but Remaining Scenarios on the Table

A. Specific Missile System / S-75 / Direct Military Test Primary Cause

Why is this scenario weak? Because explanations constructed with specific system names do not fully fit the physical core of the file and have been found technically weak by some historical actors. Slobtsov's not finding the S-75 line convincing is an important example. Also, the circulation of different missile, rocket, and vehicle scenarios within the same camp shows that we do not have a specific system trace. However this scenario is not entirely discarded; because the man-made aerial phenomenon line exists. But the level of 'specific missile model' is currently excessively certain.

B. Direct External Perpetrator / Mansi Attack / Military Team

This scenario is weak because the tent cuts were from inside, no third-party tracks were detected, there was no table of struggle and close-range assault on the bodies. Furthermore valuables are in place and the general structure of the incident site makes explaining the initial evacuation moment with an intra-group decision stronger. This scenario does not say it is completely impossible, but that the file does not carry it.

C. Completely Psychological Panic / Group Psychosis

This possibility is mentioned in Maslennikov's notes; but the fire at the cedar after the tent, climbing the tree, and the flooring and clothing economy in the ravine weaken the 'collective madness' model. The group may have made bad decisions at some points; but the file as a whole does not show irrational disintegration. For this reason, psychological panic can at most be a concentrated part of the first moments; it cannot be the main model.

D. A Pure Avalanche Model Explaining Everything

The modern slab avalanche model is very strong at explaining the initial trigger; but it is weak at explaining the entire case on its own. Because connecting the cedar line and ravine traumas to a single continuous avalanche movement does not fully fit the behavioral sequence of the file. For this reason, 'slab explains the initial break' is strong; 'slab solves everything' is weak.

14.5. Unresolved Nodes

This file, while explaining some points with high confidence, cannot resolve some nodes. It is necessary to write these clearly; because strong analysis classifies not only what it knows but also what it does not know.

1. The exact nature of the initial trigger

Why the tent was exited at that second is still not fully resolvable. The snow pressure/slab model is strong; but there is no certainty. The exact load falling on top of the tent, the amount of snow entering, how much the entrance was obstructed, and how the perception at that moment was formed are not directly recorded.

2. The second-by-second choreography of the exit from the tent

There are three main cuts; but which was opened first, who exited from which opening, whether anyone turned toward the entrance, what the first person to exit saw outside — these questions are unanswered. The tent expertise says the direction; but does not say the full sequence.

3. The exact mechanical moment of the severe traumas in the ravine

The three severe traumas in the ravine quartet require high energy; histology confirms they were premortem. However whether this energy was a single collapse, sequential falls, entrapment, water/snow bridge fracture — is not definitive. The best model is a local collapse/fall-entrapment combination; but this remains at the level of mechanical reconstruction.

4. The exact source of the radiation

That the radiation anomaly is surface-level and real is clear; but the exact source is uncertain. Krivonischenko's Mayak/PO Box 404 line is a strong candidate; clothing circulation carries it. But atmospheric dust, contact, and other industrial contact possibilities do not entirely close. There is no definitive source determination here.

5. The direct link of the fireballs line to the night of the event

Luminous object testimonies exist; but there is no direct chain proving that they were connected to the group's behavior specifically on the night of February 1. For this reason a gap remains between 'was seen' and 'triggered.'

6. The full reliability of the removed parts of the prosecution draft

The Bogomolov line is meaningful; but we do not have a signed, official, unbroken text chain regarding the draft-final difference. Yet read together with the 'special sector' and final absence, it produces serious suspicion. For this reason this is a strong suspicion, but not absolute proof. Bogomolov's draft claim is not an independent primary evidence (Class VIII). However, when placed alongside a definitive primary evidence such as the 'Special Sector' note (Class I), this hearsay becomes a strong suspicion that cannot be dismissed.

14.6. Which Data Carries What and What Does It Not Carry?

One of the most important discipline tools in this section is this. In brief, the main data sets in the file carry the following loads:

The tent expertise carries:

- that the cuts were from inside,
- that the evacuation was initiated by those inside,
- that emergency exit was chosen instead of the normal entrance.

But it does not carry: the exact nature of the initial trigger.

The footprints carry:

- that there was no complete chaos at first,
- that an incompletely equipped but directed descent occurred,
- that the majority of the group moved together.

But they do not carry: whose was each track, after how many meters exactly who separated where.

The cedar scene carries:

- that the fire, and therefore survival behavior, continued,
- that the first two people collapsed here,
- that those in better condition turned upward.

But it does not carry: the exact motivation hierarchy of those who turned upward.

The ravine scene carries:

- a second shelter-building attempt,
- the clothing economy,
- that a new mechanical disaster occurred in the second phase.

But it does not carry: the exact second and exact physical choreography of the collapse.

Autopsies and histology carry:

- two separate death families,
- that the ravine traumas were premortem,
- that there is a difference in death logic between the first five and last four.

But they do not carry: whether these traumas were caused by an external perpetrator or a micro-terrain disaster. The incident site is needed for that part.

The radiology report carries:

- that there was clothing-based, beta-dominant, surface contamination,
- that this was not normal,
- but that it did not produce an internal biological radiation picture.

But it does not carry: that radiation was the cause of death, or that the source was definitely on the night of the event.

CPSU and closing decision carry:

- which narrative the state chose,
- which aspects of the event were centered and which were pushed aside and simplified.

But they do not carry: the full mechanism of physical truth.

Every Dyatlov text written without preserving this distinction either slides into conspiracy or blind naturalism.

14.7. Detailed Formula of the Most Probable Model

The entire file is summarized more honestly not in a single sentence but in the following eight-point flow:

- The group started late on February 1, lightened its load, then ascended to the open slope on the wrong line or at least at a bad point.
- It set up the tent; at this point it was still controlled and normal enough to produce humor like Evening Otorten.
- At night, an event occurred that made the tent unsafe or was perceived as such; the strongest candidate is small slab/snow pressure/collapse fear. The tent was cut from inside for this reason.
- The group descended largely together and with incomplete equipment; there was no complete chaos at first.
- It regrouped at the cedar line, lit a fire, and established the first defense here.
- Some collapsed at the cedar; some tried to return to the tent or the clothing and died along the way.
- The remaining subgroup went to the ravine and built a second shelter; flooring and clothing economy show this.
- A local mechanical disaster occurred in the ravine; three people received severe closed trauma, and one person died more on the hypothermia/exhaustion line.

The superiority of this flow is that it does not force the available data. Every important piece of data we have finds a place in this schema; no major data remains outside. For this reason, this is the model that must be carried as the 'main scenario' within the final file.

14.8. Probability Grading

At the end of this file, the most honest thing is not to pretend at definitive verdict but to classify the probability spaces.

A. Natural initial trigger + cedar hypothermia + second mechanical disaster in ravine

Probability: 70-75%

This is the main model carrying the most data of the file. When the tent evacuation, footprint pattern, hypothermic deaths on the cedar line, heterogeneous trauma geometry on the ravine line, and limited textile transfer are evaluated together, this structure has the highest explanatory power. The model has a high level of consistency with primary findings; however since some links (especially the carrier mechanism of clothing transfer) are inferential rather than direct, it carries the status of high probability, not certainty.

B. Natural backbone + man-made celestial/rocket secondary factor

Probability: 20-30%

Maslennikov's rocket note, the fireballs line, and the trimmed narrative keep this possibility on the table; but do not elevate it to the level of a decisive primary mechanism.

C. Specific missile system / military test primary cause

Probability: 10-15%

Attractive but weak. Technical link weak, theory camp scattered within itself, does not fully integrate with physical core.

D. Direct external perpetrator / organized attack / Mansi or military team

Probability: 5-10%

Tent cuts, track structure, incident site, and autopsy pattern do not carry this. Cannot be called completely impossible; but the weight of the file is not in this direction.

E. Pure psychological panic / group psychosis alone

Probability: below 5%

It is difficult to make this the main model while the cedar and ravine scenes are this organized.

14.9. Final Verdict

The final verdict of this file cannot be a single sentence. The following verdict is constructed directly on primary documents — incident site examination protocols (1959), autopsy reports (Vozrozhdenniy, 1959), Maslennikov's radiograms and notes (1959), tent expertise (1959), the Levashov radiology report, and Burmantovo meteorological data.

Main model: On February 1, the north/northwest wind shown by the Burmantovo data transported snow to the eastern slope of 1079 throughout the day and produced slab instability. At night the pressure of this making those inside feel the tent was no longer safe triggered a controlled evacuation through cuts made from inside (tent expertise,

1959; Burmantovo meteorological data, February 1959). The group reached the cedar line in the middle of the night with incomplete equipment, lit a fire. The first two people, Krivonischenko and Doroshenko, entered hypothermia while a subgroup tried to return to the tent and failed (Dyatlov, Kolmogorova, Slobodin). The other subgroup headed toward the ravine line, built flooring; but was unable to produce a heat source. In this subgroup a local snow/ice ceiling collapse occurred: bilateral chest compression in Dubinina, unilateral chest load in Zolotaryov, focal head trauma in Thibeaux — three different fracture geometries are explained by a single local collapse because each body's position was different (Vozrozhdenniy autopsy reports, May 9, 1959; May 6, 1959 ravine protocol). Kolevatov remained at the edge or outside at the moment of collapse; this last remaining person tried to light a fire with the wet matches in his hand, failed, and succumbed to hypothermia.

Radiation matter: The Levashov report found no radioactivity other than natural K-40 in tissue samples. The anomaly is only in selected clothing areas, in the form of washable beta contamination; the highest measurement was 9,900 cpm/150 cm^2 (in Dubinina's brown sweater), dropping to 5,200 after washing. In Levashov's own words: 'Under normal conditions such a level of contamination definitely does not occur.' Radiation is not the death engine; it is most probably the product of contact contamination originating from Krivonischenko's Chelyabinsk-40/Mayak background and the clothing circulation in the cedar-ravine phase (Levashov radiology report, May 27, 1959, pp. 371-377).

The inhomogeneity of the contamination may at first glance appear as an inconsistency for the model, but the nature of textile transfer explains this situation. The selective and piece-by-piece rather than whole-garment transfer causes radioactive particles to also remain discrete and local. For this reason, the concentration of contamination in specific pieces is more consistent with the selective textile economy occurring during the event than with a continuous and evenly distributed contamination model. However, the exact timing of contamination cannot be directly determined, and this parameter continues to carry limited uncertainty within the model.

Dubinina's tongue matter: The May 6 protocol clearly states that Dubinina's head was lying against the current; the other three bodies were lying in the direction of the current, heads facing north. She is the only body whose face was turned directly toward flowing water for three months. Vozrozhdenniy recorded this as 'post-mortem change'; Thibeaux was found in the same water and environment with his tongue present; this shows that Dubinina's position was decisive (Vozrozhdenniy autopsy reports, May 9, 1959; May 6, 1959 protocol).

State line: There is no strong direct file evidence that the state covered up. However, the radiation pages being placed in the 'special sector,' the radiation paragraph in the draft closing text not being carried to the final text, and the prosecution closing the file with a rubber expression like 'overwhelming force' show that the multi-layered reality of the event was reduced to the single-layered 'natural disaster + organizational failure' formula. The strongest conspiracy is not a killing conspiracy but one of narrative simplification.

Remaining open nodes: The exact form of the initial trigger (slab model supported, not proven); the remaining uncertainty in Dubinina's tongue (position + taphonomy offers a strong explanation, 80% confidence); the absence of direct documentation that the source of radiation was Krivonischenko (65% confidence). The data that would close these three nodes is either buried or lost.

Final verdict: In the Dyatlov case, there is no externally arriving perpetrator, no criminal/military intervention, and no paranormal factor. The event is the sequential consequence of wrong tactical decisions, environmental stress factors, and a micro-scale local snow collapse occurring in the ravine shelter. The remaining inexplicable gaps in the system are not a mystery. They are the natural result of the contamination of 1959 search-and-rescue processes, thermodynamic destruction, and the irreversible data entropy erased by time. The true center is not a single mysterious perpetrator; it is a two-phase disaster and the single-phase official narrative placed over it.

15. The Night of February 1: T0-T+180 Reconstruction

Introduction

This document is an independent analysis aiming to reconstruct the time period between T0 (the abandonment of the tent) and T+180 minutes of the events on the night of February 1, 1959 in the Dyatlov Pass case, in light of available primary data. The data set used consists of incident site examination protocols (1959), autopsy reports (Vozrozhdenniy, 1959), field commander Maslennikov's radiograms and notes (1959), tent expertise (1959), and photo archives.

This reconstruction does not claim certainty. The aim is to construct the scenario that does not contradict all physical findings, contains the lowest number of assumptions, and has the highest explanatory power. Speculative elements are clearly marked and not mixed with documented findings.

Pre-T0 Context

On February 1, the group moved at a late hour, was unable to complete the planned distance during the day, and in the evening hours set up camp in an open area on the eastern slope of 1079 (Dyatlov group diary, 1959). While the same group had consciously avoided the ridge line the day before, the decision to ascend to the open slope on this day is striking.

Meteorological conditions increase the risk profile of this decision. According to Burmantovo station data, north and northwest-directed wind predominates throughout the day; these winds continuously transport snow to the eastern slope and form a slab layer that is invisible to the eye but accumulating load (Burmantovo meteorological data, February 1959; Maslennikov notes). Temperature is in the -20°C band and there is no precipitation. This situation weakens classic avalanche conditions while making wind-transported snow load-sourced local instability possible.

The group is physically tired but not cognitively disintegrated. Diaries and final photographs show that morale was stable and activities were continuing in routine flow. For this reason, the T0 moment is not a natural extension of previous days but a break initiated by an external trigger.

T0-T+180 Reconstruction

T0 - T+5: Initial Trigger and Abandonment of the Tent

In the nighttime hours a snow deformation occurs on the surface where the tent is set up. This deformation is assessed not as a classic avalanche but as wind-loaded slab layer locally sliding or applying pressure on the tent.

It is low probability that a slowly developing snow deformation on its own would trigger such an emergency evacuation. For this reason, the initial trigger should be assessed not as a single physical event but as a combination of mechanical stress and perceptual threat. When snow layer deformation, wind-sourced acoustic effects, and possible light/sound anomalies are considered together, it is understood that the group's threat perception experienced a sudden threshold crossing. This is not irrational panic; it is a rapid risk minimization decision made under incomplete information.

It is understood that the initial trigger was a combination of mechanical stress and perceptual threat rather than a single physical event. When slab deformation, wind load, and possible acoustic/light-sourced stimuli are considered together, the evacuation decision is not the product of a false perception but a rational risk minimization made under incomplete information.

The tent being cut and abandoned suggests that the entrance line became not merely disadvantageous in terms of access but functionally unusable. Otherwise, given the extreme cold and lack of outer clothing, the standard exit would be expected to be preferred over evacuation. For this reason, the cutting decision shows higher consistency with physical access obstruction rather than time cost.

T+5 - T+20: Controlled Descent

After coming out of the tent, the group begins descending down the slope. The footprints detected at the incident site point to an orderly walk rather than disorderly flight. The tracks are parallel and close to each other; it was determined that some individuals walked in socks or nearly bare feet (incident site footprint report, 1959). This shows that the group was still moving together and that no panic-induced scattering occurred at the first moment. The tracks showing only downward continuous direction strongly supports a systematic return line formed by organized and multiple individuals. The movement of the three individuals heading toward the tent was not represented in track continuity due to the decline of motor control and track-leaving capacity in the advanced hypothermia phase.

T+20 - T+45: First Assembly Beneath the Cedar and Fire

When the group reaches the forest line it chooses the spot beneath the large cedar tree as a temporary shelter point. There is strong evidence that a fire was lit: burn marks, broken branches, and fractures up to 4-5 meters height on the tree (Maslennikov field notes, 1959). It is understood that some members climbed the tree, probably to observe the environment and determine the direction of the tent. At this stage the group is still unified (in the high-probability configuration). Confidence: 85%.

T+45 - T+90: Onset of Hypothermia and First Collapse

Two members with insufficient clothing, Yuri Krivonischenko and Yuri Doroshenko, rapidly enter hypothermia. Autopsy findings show that the cause of death of these two individuals was directly hypothermia (Vozrozhdenniy autopsy report, 1959). Signs of paradoxical undressing begin, motor coordination declines. The group has not yet split, but the collapse of the first two individuals creates a critical threshold. This phase is the starting point of clothing transfer in this scenario: some pieces found in the ravine group must have been taken from these two people. Confidence: 85%.

T+90 - T+120: Split and Beginning of the Second Phase

With the first two individuals approaching the death threshold, the group strategically divides. Three people — Dyatlov, Kolmogorova, Slobodin — attempt to return to the tent; the positions of their bodies on the cedar-tent line show that this attempt failed (incident site protocol, 1959). The remaining group, in this configuration, heads toward the ravine line in order to create a more permanent shelter. This division is not an early and clean split; it is a functional divergence that dissolves late at the cedar, shaped after the first collapse. The tracks showing only downward continuous direction strongly supports that an organized and systematic return upward did not occur. However, it is assessed that the individuals heading toward the tent experienced motor capacity loss in the advanced hypothermia phase and therefore upward movement may not have been represented in track continuity. This situation strongly supports that movements developing after the cedar line occurred through limited and individual efforts and that no systematic group maneuver took place.

T+120 - T+150: Kolevatov Shuttle and Clothing Transfer

The timing of clothing transfer carries a critical physiological constraint. Stripping frozen clothing from a rigid body in -20°C conditions requires isometric muscle contraction different from walking, and this process becomes physiologically impossible as rigor mortis and full freezing progress. For this reason, transfer must have occurred not at T+120 but in the narrow window immediately after the first collapse (T+90) — before the clothing was fully frozen and before the muscles had stiffened. This time constraint is also consistent with Kolevatov having lost fine motor skills at T+165: the transfer occurred early, motor loss occurred late. At this stage, within the framework of the most consistent scenario with available data, Alexander Kolevatov assumes a critical role. The fact that some clothing found in the ravine group belonged to individuals who died on the cedar line shows that a transfer occurred in between (clothing examination reports, 1959). This transfer is not a conjecture but emerges as a strong necessity when thermal survival dynamics and incident site findings are evaluated together. The

positioning of this transfer after T+120 is consistent with the clothing becoming accessible after the hypothermic collapse on the cedar line and the ravine group still being in an active sheltering phase.

All other logistical alternatives (collective transport or the ravine group returning) conflict with timing and incident site tracks. Because no separate track pattern that would show a return from the ravine line to the cedar has been found in track continuity. Furthermore, all available tracks show a one-directional movement from the tent to the cedar, and no systematic reverse-direction traffic is observed. Kolevatov's trauma-free profile, active position, and the wet matches on him make him the most probable logistical vector (carrier) in the system. Although there is no direct visual evidence, this displacement in textile economy stands out as the most consistent explanation through systematic elimination. This movement can be most consistently explained within the available data set by Kolevatov's shuttle behavior. This model also explains why he did not sustain severe trauma: he was not there or was at the edge at the moment of collapse. The wet matches in his pocket are evidence that he remained active and functional during this process. Kolevatov's not sustaining trauma shows that he remained outside the load line at the moment of collapse; and the death mechanism belongs to the hypothermia process progressing independently of this event.

This model is not confirmed by a direct observational record; however, when incident site textile distribution, footprint direction analysis, and the trauma profiles of individuals are evaluated together, alternative scenarios are systematically eliminated. For this reason, Kolevatov's shuttle role is positioned not as certainty but as the highest-probability logistical explanation within the available data set.

The physiological cost of this logistical movement can be approximately assessed using the Pandolf equation developed for walking in snow conditions (Pandolf et al., 1977). Energy expenditure is modeled as follows: $M = 1.5W + 2.0(W + L)(L/W)^2 + \eta(W + L)(1.5V^2 + 0.35VG)$ Where: M = metabolic energy consumption (Watts); W = body weight (kg); L = load carried (kg); V = speed (m/s); G = slope (%); η = ground coefficient (~2-3 for snow). Field-appropriate estimated values: W ≈ 70 kg; L ≈ 5-10 kg (clothing load); V ≈ 0.3-0.6 m/s (deep snow); G ≈ 5-15% slope; η ≈ 2-3. With these parameters, hourly energy consumption is calculated as approximately 400-600 kcal/hour. For a single short shuttle movement (estimated 10-20 minutes) the total metabolic cost is in the ~70-200 kcal range. These values show that an individual in the advanced hypothermia phase with lowered body temperature and depleted energy reserves would physiologically be unable to sustain multiple and repeated carrying cycles. Therefore Kolevatov's role should be assessed not as a continuous shuttle operation but as a short-duration, limited-number, and critically important logistical intervention. This approach offers a model consistent with both energy economy and field track continuity.

That the main carrier of this transfer was Kolevatov stands out as the most consistent scenario. Because other possibilities run into physical obstacles. It is low probability that the group descended carrying armfuls of spare clothing during an evacuation where they did not even have time to put on shoes. Three of the ravine quartet (Dubinina, Zolotaryov, Thibeaux) are severely traumatized and hypothermic; it is physiologically low probability that they had the motor capacity to return to the cedar in the dark and

deep snow and transport clothing by stripping it. Under these conditions, due to his trauma-free profile and findings showing he could remain active (wet matches), Kolevatov stands out as the most probable logistical carrier in the system. Although it is theoretically possible for the ravine group to have returned to the cedar line before the trauma, this scenario remains low probability given the absence of a traffic pattern in this direction in track continuity and the time/energy cost.

T+150 - T+165: Ravine Shelter and Failed Heat Production

In the area where the ravine group was found, a flooring consisting of 14 fir and 1 birch tops placed on the ground was detected (May 6, 1959 incident site protocol). This clearly shows a deliberate shelter-building attempt. However there is no evidence that a fire was lit. The wet matches found on Kolevatov suggest that the fire-lighting attempt in this area failed. The ravine scene is not a completed shelter; it is an incomplete shelter attempt where flooring and textiles were set up but heat production could not be achieved.

The difference between the construction of the ravine shelter and the failure of the fire-lighting attempt can be explained by the gradual effect of hypothermia on motor functions. The flooring construction must have been carried out in the early phase when individuals still retained their gross motor skills. In contrast, the wet matches in Kolevatov's pocket show that fine motor skills were lost in a later phase. This time-motor correlation shows that the behaviors in the field do not contradict each other but are consistent with the progressive hypothermia curve.

T+165 - T+175: Local Collapse and Traumatic Death Mechanism

Severe closed trauma was detected in three of the four individuals found on the ravine line. The following mechanical explanation is a high-probability reconstruction that does not contradict the available incident site and autopsy data; it is not a deterministic measurement.

Multiple bilateral and symmetrical rib fractures were found in Dubinina; unilateral/asymmetric chest fractures in Zolotaryov; and focal depressed skull fracture in Thibeaux-Brignolle (Vozrozhdenniy autopsy reports, May 9, 1959). Vozrozhdenniy himself separated these geometries by saying 'bilateral and symmetrical' for Dubinina and 'one-sided' for Zolotaryov.

The 6-meter distance between the flooring platform and the point where the bodies were found, as stated in the May 6, 1959 incident site protocol, refers not to a vertical height but to the horizontal/slope distance in the direction of stream flow within the ravine. The flooring and bodies were at the same altitude level at the moment of collapse; the thrust force created after the collapse or the water flow in spring (taphonomy) transported the heavier, water-submerged bodies 6 meters downstream while the platform remained in place. The fact that the bodies were already positioned near the ground level confirms that the force producing the trauma was not a long-distance fall but short-distance local compression.

The most consistent model is a multi-contact single event cluster initiated by the sudden fracture of a local snow bridge formed above the shelter level. What is meant by 'single event' here is not a single instantaneous compression but a sequential contact series triggered by a single collapse event. In this series, different bodies received load at different contact points: direct compression from above, lateral tilting, ground contact. Three different trauma geometries — bilateral, asymmetric, focal — are therefore not unexpected from a single event; each body received a different load vector according to its position at that moment. Since the bodies were already at ground level, no long-distance fall or sliding along a slope occurred. The relatively low collapse speed of the snow mass (v = 1-3 m/s) explains the absence of long-distance kinetic energy and classic rolling traumas while supporting a compression-dominant internal injury pattern.

These three different trauma geometries can be explained not by a single type of external force but by the collapse of a small-volume closed structure. A wide-area avalanche is a mechanism expected to produce more homogeneous trauma patterns among victims. In contrast, in the collapse of a limited-volume closed structure, each body's position becomes decisive: a face-up position can lead to bilateral compression, a laterally turned position to one-sided load, and the head positioned near the edge to focal impacts.

In this framework, the observed trauma diversity is explained more consistently by the fracture of a heterogeneous, fragmented upper mass at short time intervals rather than a homogeneous avalanche model. However, for these fracture patterns to form, not only the load coming from above is sufficient; the counter-force created by the frozen stream bed below (stone/ice) forming an 'anvil effect' is a critical factor. This compression between the pressure coming from above and the hard ground below offers a mechanism that can explain high-energy internal trauma together with limited damage to external soft tissue.

While this mechanism is conceptually strong, it does not rest on a direct quantitative force calculation. The available biomechanical literature shows that local forces of several kilonewtons are sufficient to produce rib fractures in the human chest cage. The sudden collapse of a sufficiently thick and concentrated snow mass and its combination with the hard surface of the frozen stream bed below offers a sufficient physical framework to produce this force range. The model is not a deterministic calculation; but it is a set of mechanical explanations consistent with the observed trauma geometries.

This mechanism can be tested against biomechanical threshold values. The range of local force required for human rib fracture is given in the literature as approximately 3-8 kN (Yoganandan & Pintar, 2000). The loading in the ravine scene can be modeled as a combination of static and dynamic components: $F = m \times g + (m \times v^2 / 2d)$. Parameters have been narrowed to conservative ranges to maintain physical consistency: m (snow mass): 80-200 kg; v (collapse speed): 1-3 m/s; d (compression distance): 0.05-0.10 m. Calculated within these ranges: $F_{static} = m \times g \approx 800\text{-}2000$ N; $F_{dynamic} \approx 400\text{-}18{,}000$ N.

The upper segment of this range represents the extreme scenario corresponding to the combination of high speed and low compression distance; it is assessed that typical field conditions are closer to the central scenario range. Total force: $F_{total} \approx 1.2\text{-}20$ kN.

This range exceeds the 3-8 kN threshold required for rib fracture in the upper segment and approaches it in the lower segment. The following calculation was made for a single instantaneous compression and it should be noted that energy distribution will differ in the sequential contact model. For this reason the calculation answers the question 'can the required force be produced?'; it does not model the separate contact geometry for each body.

A more representative central scenario: m = 150 kg, v = 2 m/s, d = 0.08 m; $F_{dynamic}$ = 150×4 / 0.16 ≈ 3750 N; F_{static} ≈ 1470 N; F_{total} ≈ 5200 N (~5.2 kN). This value falls directly within the rib fracture threshold. Contact area effect can be expressed through pressure: P = F / A; A (local contact area): 0.3-0.6 m². In the central scenario: P ≈ 5200 / 0.3-0.6 ≈ 8.6-17.3 kPa.

This pressure range is a helpful parameter for showing the distribution of load across the contact area; however the decisive variable in rib fracture biomechanics is total force. For this reason pressure calculations should be considered as a secondary indicator.

As a result, trauma production is explained by the compression mechanism formed between the snow mass coming from above and the frozen stream bed below rather than by free fall. Within this structure, the snow mass acts as a 'hammer' and the ground acts as an 'anvil.' The model does not offer a deterministic measurement; however the calculation conducted over narrowed parameter ranges and the central scenario quantitatively shows that the observed trauma patterns are physically producible.

The individual positions at the moment of collapse cannot be definitively determined with direct observational data. For this reason the relationship between trauma geometries and positions is not directly proven but an interpretation derived from available data. However, the observed trauma diversity is not consistent with the single-type injury patterns expected under homogeneous load. For this reason, although positional differences cannot be directly verified, the diversity of trauma geometries shows higher explanatory power with a heterogeneous load distribution and position-dependent compression model.

The orientation data in the protocol offers an indirect but meaningful correlation with trauma geometries. The May 6, 1959 ravine protocol stated that Dubinina's head was positioned against the current, while the other three individuals had their heads facing north; it was also recorded that Zolotaryov and Kolevatov were found 'embracing/wrapped.'

When this orientation data is evaluated together with trauma patterns, it offers a framework supporting position-dependent load distribution. Dubinina's bilateral and symmetrical rib fractures are consistent with a face-up or top-loaded equal-weight position; her head being positioned against the current does not exclude such a placement. Zolotaryov's unilateral rib fractures are consistent with a laterally turned position; his being found 'embracing' with Kolevatov suggests that these two individuals may have been exposed to different load lines at the moment of collapse. Kolevatov's

lack of severe trauma supports a micro-position scenario where the load was concentrated asymmetrically on Zolotaryov.

These relationships are not directly observationally recorded positions; the available data is interpreted in reverse from trauma to position. However, this overlap between the orientation information in the protocol and the autopsy findings shows that position-dependent collapse model is not only theoretical but an explanation partially supported by primary data.

This transition mechanism has not been directly observed; however when trauma geometry, body positions, and morphological field data are evaluated together, a gradual collapse model occurring together with the mass rather than free fall shows higher explanatory power compared to alternative scenarios.

T+175 - T+180: Final Phase

After the collapse, three individuals perish in a short time. Kolevatov remains alone. This is not directly observed; it is an inference derived from trauma profile and wet match finding. The wet matches in his hand point to a final fire attempt; there is no fire trace in the ravine, this attempt failed. Kolevatov dies of hypothermia. His autopsy and histology carry exactly this: no severe trauma, low-temperature line present. This is the end of the person who was probably the last one standing and who did the most work among the nine people. Confidence: 70%.

Final Results

This model simultaneously explains the following physical details: the tent cut from inside, the 8-9 person close and controlled footprint order, the fire and tree intervention at the cedar, the first two Yuris collapsing at the cedar, the flooring and textile economy in the ravine, Kolevatov's lack of trauma, three different severe trauma geometries in Dubinina/Zolotaryov/Thibeaux. It also indirectly supports Dubinina's tongue loss: the protocol shows her head was lying against the current.

Although the Dyatlov Pass case has long been interpreted with speculative explanations, when the available primary documents are evaluated together, the event is seen to be a nature-sourced, multi-phase survival crisis. This study presents the single consistent model that does not contradict all data and excludes alternative hypotheses on the basis of explanatory economy. However, due to data loss and incident site deterioration, an absolutely deterministic conclusion is not possible. The result obtained is not a 'definitive solution' but the strongest reconstruction with the available data.

There is no direct physical data to support the possibility of an external force or perpetrator, and these possibilities have been eliminated from the main scenario on the basis of explanatory economy. Although the file does not reach a closure that answers all questions with 100% certainty, it presents the highest-probability reconstruction that does not contradict the available primary data and places alternative hypotheses in a secondary position on the basis of explanatory economy. The remaining gaps in the

system are not a mystery; they are the natural consequence of the contamination of 1959 search-and-rescue processes, thermodynamic destruction, and the irreversible data entropy erased by time.

This model does not produce deterministic certainty in all sub-parameters; however, at each critical node it narrows the field of explanation by systematically excluding alternative scenarios. For this reason, the conclusion reached is not the product of a single piece of evidence but a convergence formed by independent data sets that mutually limit each other.

Experimental verification of this model would require the inclusion of temperature-dependent tissue rigidity, ground elasticity, and textile damping parameters in the simulation. Otherwise, the results obtained may produce systematic bias (false positive / false negative).

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